Dear Customer,

This File Contains Both The ANSI Material Safety Data Sheet and The GHS Safety Data Sheet For The Same Product

Spectrum is currently transitioning all chemical product labeling from the ANSI\(^1\) format to the GHS\(^2\) format (see note below). In order to ensure that you receive complete labeling during the transition, we have included both the ANSI MSDS and the GHS SDS in a single file. The ANSI MSDS is given first, followed by the GHS SDS. Please use whichever matches the container label.

Why It Matters:

The complete precautionary labeling for this chemical consists of BOTH the label on the container AND the matching Material Safety Data Sheet (for ANSI labels) or Safety Data Sheet (for GHS labels). Both elements of the labeling [Label + (M)SDS] are written to be read and understood together, so as to provide complete precautionary information. It is intended for you to read and understood BOTH before handling or using the chemical.

Picking the Right One: 2 Easy Ways To Tell Whether Your Container Has an ANSI Label or a GHS Label

1) GHS labels: any pictogram displayed in the upper left-hand corner will be inside a red diamond. ANSI labels: pictograms, if present, will be inside individual black boxes.
2) GHS labels: on the bottom of the right-hand panel of the label, locate the Lot Number. Directly to the left will be a string of control characters, followed by a single letter. For GHS labels, the string of characters will end in “GHS:”

---

CORPORATE OFFICES
14422 South San Pedro Street
Gardena, California 90248
PHONE 310.516.8000
FAX 310.516.9843
2 American National Standards Institute

2 Globally Harmonized System for Hazard Communication

Sincerely,

Regulatory Affairs
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>Safety glasses, respiratory protection, gloves.</td>
</tr>
</tbody>
</table>

Product code: P-213
Product Name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Chemical Name: No information available
Synonyms: No information available
Recommended use: No information available.
CAS #: Mixture
RTECS #: Not available
Formula: No information available
CI#: Not available
Supplier: Spectrum Chemicals and Laboratory Products, Inc.
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: Ibad Tirmiz (East Coast)
Contact Person: Martin LaBenz (West Coast)

2. HAZARDS IDENTIFICATION

See Section 8.
## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**WARNING! IRRITANT**

Irritating to eyes

<table>
<thead>
<tr>
<th>Odor:</th>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information available</td>
<td>Liquid.</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

### POTENTIAL HEALTH EFFECTS

**Principal Routes of Exposure:**

None.

**Acute Potential Health Effects:**

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

**Eye Contact:**
Causes eye irritation.

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

**Ingestion:**
Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea. May cause abdominal pain. It may affect the kidneys. May cause central nervous system effects.

### Chronic Potential Health Effects:

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>7732-18-5 (73.29)</td>
<td>No information available</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>No information available</td>
</tr>
<tr>
<td>87-69-4 (22.5)</td>
<td>No information available</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>No information available</td>
</tr>
<tr>
<td>7681-11-0 (4)</td>
<td>No information available</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>No information available</td>
</tr>
<tr>
<td>1304-85-4 (0.212)</td>
<td></td>
</tr>
</tbody>
</table>

**Target Organs:**

No information available

**Mutagenic Effects:**

No information available

**Teratogenic Effects:**

No information available

**Aggravated Medical Conditions:**

No information available

See Section 11 for additional Toxicological Information

### POTENTIAL ENVIRONMENTAL EFFECTS

No information available

**Product code:** P-213

**Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>73.29</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>87-69-4</td>
<td>22.5</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>7681-11-0</td>
<td>4</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>1304-85-4</td>
<td>0.212</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General Advice: Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

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.

Notes to Physician: Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F): The product is not flammable.

Flash Point Tested according to: Not available

Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available

Autoignition Temperature (°C/°F): No information available

Suitable Extinguishing Media: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Hazardous Combustion Products: No information available.

Specific hazards: 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

Specific Methods: No information available.
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental Precautions:
No information available. Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up:
Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:
Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:
Protect from light. Sensitive to light. Store in light-resistant containers. 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:

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:
Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal Protective Equipment

Eye protection: Goggles. Safety glasses with side-shields.

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, 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.
# National occupational exposure limits

## United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water - 7732-18-5</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>L-Tartaric Acid - 87-69-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Potassium Iodide - 7681-11-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bismuth Subnitrate - 1304-85-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

## Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water 7732-18-5</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>L-Tartaric Acid 87-69-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Potassium Iodide 7681-11-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bismuth Subnitrate 1304-85-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

## Australia and Mexico

<table>
<thead>
<tr>
<th>Components</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water 7732-18-5</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>L-Tartaric Acid 87-69-4</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Potassium Iodide 7681-11-0</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bismuth Subnitrate 1304-85-4</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

## 9. PHYSICAL AND CHEMICAL PROPERTIES
### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
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<tr>
<td>Odor</td>
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</tr>
<tr>
<td>Flash point (°C)</td>
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</tr>
<tr>
<td>Autoignition Temperature (°C/°F)</td>
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<tr>
<td>pH</td>
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</tr>
<tr>
<td>Decomposition temperature (°C/°F)</td>
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<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor threshold (ppm)</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific gravity</td>
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</tr>
<tr>
<td>Molecular/Formula weight</td>
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</tr>
<tr>
<td>Taste</td>
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</tr>
<tr>
<td>Lower Explosion Limit (%)</td>
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<td>Melting point/range (°C/°F)</td>
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<td>Bulk density</td>
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<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
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</tr>
<tr>
<td>Density (g/cm³)</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure @ 20°C (kPa)</td>
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</tr>
<tr>
<td>VOC content (g/L)</td>
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</tr>
<tr>
<td>Miscibility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
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</tr>
<tr>
<td>Miscibility</td>
<td>No information available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable at normal conditions</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Exposure to light. Incompatible materials.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No information available</td>
</tr>
<tr>
<td>Possibility of Hazardous Reactions</td>
<td>Contains tartaric acid. Aqueous solution of tartaric acid can liberate explosive hydrogen gas in contact with reactive metals (Iron, Zinc, Aluminum)</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Hazardous polymerisation does not occur</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>No information available</td>
</tr>
<tr>
<td>Special Remarks on Corrosivity</td>
<td>No information available</td>
</tr>
</tbody>
</table>

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

**Component Information**

*Water* - 7732-18-5

- **LD50/oral/rat** = > 90 mL/kg Oral LD50 Rat
- **LD50/oral/mouse** = 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 = No information available

L-Tartaric Acid - 87-69-4
LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Potassium Iodide - 7681-11-0
LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Bismuth Subnitrate - 1304-85-4
LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information
LC50/inhalation/rat No information available
LC50/inhalation/mouse No information available
LD50/dermal/rabbit No information available
LD50/dermal/rat No information available
LD50/oral/mouse = No information available
LD50/oral/rat = No information available

Local Effects

Skin irritation: May cause skin irritation.
Eye irritation: Causes eye irritation.
Inhalation: May cause irritation of respiratory tract.
Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause abdominal pain. May affect urinary system (kidneys). May affect behavior/central nervous system (somnolence). Ingestion of a large amount of iodides may cause Serum-sickness type of hypersensitivity such as fever, arthralgia, lymph node enlargement, and eosinophilia may appear. Thrombotic thrombocytopenic purpura, and fatal periarteritis nodosa attributed to hypersensitivity to iodide has also been described.
**Sensitization:** No information available

**Chronic Toxicity**

**Chronic Toxicity**

Chronic ingestion of iodides can lead to iodism characterized by salivation, nasal discharge, sneezing, conjunctivitis, fever, headache, laryngitis, bronchitis, stomatitis, parotitis, anemia, and skin rashes. Chronic ingestion may also affect metabolism (anorexia), and thyroid gland (hypothyroidism, goiter). Furthermore, chronic ingestion of iodides (in animals) during pregnancy has resulted in fetal deaths, severe goiter and cretinoid appearance of the newborn.

**Carcinogenic effects:** Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA HCS - Carcinogens</th>
<th>ACGIH - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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<tr>
<td>Bismuth Subnitrate</td>
<td>Not listed</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:** Contains Potassium Iodide which may cause adverse development effects based on animal data. Chronic ingestion of iodides (in animals) during pregnancy has resulted in fetal deaths, severe goiter, and cretinoid appearance of the newborn.

**Teratogenic Effects:** No information available

**Target Organs:** No information available

**12. ECOLOGICAL INFORMATION**

**ECOTOXICITY**

**Toxicity to terrestrial and aquatic plants and animals:** No information available

**Ecotoxicity effects:** No data available.

**Aquatic toxicity:** No information available

**Mobility:** No information available

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**13. DISPOSAL CONSIDERATIONS**

**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>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Product code: P-213
Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
14. TRANSPORT INFORMATION

**DOT**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Packing Group:** None
- **Subsidiary Risk:** Not applicable
- **Marine Pollutant**
- **ERG No:** No information available
- **DOT RQ (lbs):** No information available

**TDG (Canada)**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Packing Group:** None
- **Subsidiary Risk:** No information available
- **Description:** No information available

**ADR**
- **UN-No:** No information available
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Packing Group:** None
- **Subsidiary Risk:** No information available
- **Classification Code:** No information available
- **Description:** No information available

**IMO / IMDG**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Packing Group:** None
- **Subsidiary Risk:** No information available
- **Description:** No information available
- **IMDG Page:** No information available
- **Marine Pollutant**
- **MFAG:** No information available
- **Maximum Quantity:** No information available

**RID**
- **UN-No:** No information available
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Packing Group:** None
- **Subsidiary Risk:** No information available
- **Classification Code:** No information available
- **Description:** No information available

**ICAO**
- **UN-No:** No information available
- **Proper Shipping Name:** No information available

---

**Product code:** P-213  
**Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

IATA
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
Description: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>Philippines (PICCS)</th>
<th>KOREA KECL</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Present</td>
<td>Present</td>
<td>Present KE-35400</td>
<td>Not present</td>
<td>Present</td>
<td>Present</td>
<td>Present 231-791-2</td>
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<td>L-Tartaric Acid</td>
<td>Present</td>
<td>Present</td>
<td>Present KE-10801</td>
<td>Present (2)-1456</td>
<td>Present</td>
<td>Present</td>
<td>Present 201-766-0</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Present</td>
<td>Present</td>
<td>Present KE-29149</td>
<td>Present (1)-439</td>
<td>Present</td>
<td>Present</td>
<td>Present 231-659-4</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Present</td>
<td>Present</td>
<td>Present KE-03350</td>
<td>Not present</td>
<td>Not present</td>
<td>Present</td>
<td>Present 215-136-8</td>
</tr>
</tbody>
</table>

U.S. Regulations

L-Tartaric Acid
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1099

Potassium Iodide
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1634


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>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
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<tr>
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CERCLA/SARA

<table>
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<tr>
<th>Components</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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Product code: P-213
Product name: POTASSIUM-BISMUTH
IODIDE TS, (U.S.P. TEST SOLUTION)
U.S. TSCA

<table>
<thead>
<tr>
<th>Components</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>L-Tartaric Acid</td>
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<tr>
<td>Potassium Iodide</td>
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<td>Not Applicable</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Not Applicable</td>
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</tbody>
</table>

Canada

**WHMIS hazard class:**
D2B Toxic materials

**Water**
Uncontrolled product according to WHMIS classification criteria

**L-Tartaric Acid**
E

**Potassium Iodide**
D2A

**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.

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<thead>
<tr>
<th>Components</th>
<th>WHMIS Ingredient Disclosure List -</th>
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<td>Potassium Iodide</td>
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**Inventory**

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<table>
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<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Not listed</td>
<td>Not listed</td>
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</table>

**EU Classification**

**R-phrase(s)**
R36 - Irritating to eyes.

**S-phrase(s)**
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
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<td>L-Tartaric Acid</td>
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<td>Potassium Iodide</td>
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<td>Bismuth Subnitrate</td>
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</table>

**Product code:** P-213  
**Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
Xi - Irritant.

16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

Preparation Date: 22-Oct-2014
Reason for revision: Not applicable
Prepared by: Sonia Owen
Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) 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 MSDS. The physical properties reported in this MSDS 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 MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.
SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product code: P-213
Product Name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)

Other means of identification
Synonyms: No information available
CAS #: Mixture
RTECS #: Not available
CI#: Not available

Recommended use of the chemical and restrictions on use
Recommended use: No information available.
Uses advised against: No information available

Supplier:
Spectrum Chemicals and Laboratory Products, Inc.
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)
Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation Category 2A

Label elements
Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
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<tr>
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</table>

4. FIRST AID MEASURES

First aid measures
General Advice: Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

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.

Product code: P-213 Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Most important symptoms and effects, both acute and delayed

Symptoms: Causes eye irritation. May cause skin irritation. May cause digestive (gastrointestinal) tract irritation. May cause abdominal pain, nausea, vomiting, diarrhea. May cause central nervous system effects. 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: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: No information available.

Specific hazards: No information available.

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.

Environmental precautions: No information available. 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. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up: Use appropriate tools to put the spilled material in a suitable chemical waste disposal container.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions: Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

Product code: P-213
Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Protect from light. Sensitive to light. Store in light-resistant containers. 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:

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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Canada

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<tr>
<td>Bismuth Subnitrate 1304-85-4</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures to reduce exposure:
Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Product code: P-213
Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
**Eye protection:** Goggles. Safety glasses with side-shields.

**Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.

**Respiratory protection:** Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tr>
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</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**
- Reactive with oxidizing agents
- Reactive with metals
- Reactive with strong acids
- Reacts with bases
- Contains tartaric acid. Aqueous solution of tartaric acid can liberate explosive hydrogen gas in contact with reactive metals (Iron, Zinc, Aluminum)

**Chemical stability**
- Stability: Stable at normal conditions

**Product code:** P-213  
**Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Exposure to light. Incompatible materials.


Hazardous decomposition products: No information available.

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: None.

Acute Toxicity

Component Information

Water - 7732-18-5
- LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
- LD50/oral/mouse = No information available
- 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 = No information available

L-Tartaric Acid - 87-69-4
- LD50/oral/rat = No information available
- LD50/oral/mouse = No information available
- 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 = No information available

Potassium Iodide - 7681-11-0
- LD50/oral/rat = No information available
- LD50/oral/mouse = No information available
- 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 = No information available

Bismuth Subnitrate - 1304-85-4
- LD50/oral/rat = No information available
- LD50/oral/mouse = No information available
- 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 = No information available

Product code: P-213  Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Product Information

**LD50/oral/rat =** No information available
**LD50/oral/mouse =** No information available
**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 =** No information available

**Symptoms**

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

**Eye Contact:**  Causes eye irritation.

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

**Ingestion:**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause abdominal pain. May affect urinary system (kidneys). May affect behavior/central nervous system (somnolence). Ingestion of a large amount of iodides may cause Serum-sickness type of hypersensitivity such as fever, arthralgia, lymph node enlargement, and eosinophilia may appear. Thrombotic thrombocytopenic purpura, and fatal periarthritis nodosa attributed to hypersensitivity to iodide has also been described.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause abdominal pain. May affect the kidneys. May affect behavior/central nervous system (somnolence). Ingestion of a large amount of iodides may cause Serum-sickness type of hypersensitivity such as fever, arthralgia, lymph node enlargement, and eosinophilia may appear. Thrombotic thrombocytopenic purpura, and fatal periarthritis nodosa attributed to hypersensitivity to iodide has also been described.

**Aspiration hazard**  No information available

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

**Product code:** P-213  
**Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Chronic Toxicity
Chronic ingestion of iodides can lead to iodism characterized by salivation, nasal discharge, sneezing, conjunctivitis, fever, headache, laryngitis, bronchitis, stomatitis, parotitis, anemia, and skin rashes. Chronic ingestion may also affect metabolism (anorexia), and thyroid gland (hypoactivity, goiter). Furthermore, chronic ingestion of iodides (in animals) during pregnancy has resulted in fetal deaths, severe goiter and cretinoid appearance of the newborn.

Sensitization:
No information available

Mutagenic Effects:
No information available

Carcinogenic effects:
Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH - Carcinogens</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Reproductive toxicity
No data is available

Reproductive Effects:
No information available

Developmental Effects:
Contains Potassium Iodide which may cause adverse development effects based on animal data. Chronic ingestion of iodides (in animals) during pregnancy has resulted in fetal deaths, severe goiter, and cretinoid appearance of the newborn

Teratogenic Effects:
No information available

Specific Target Organ Toxicity

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.

Product code: P-213
Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

**DOT**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Subsidiary Risk:** Not applicable
- **Packing Group:** None
- **Marine Pollutant:** No data available
- **ERG No:** No information available
- **DOT RQ (lbs):** 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
- **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
- **Classification Code:** No information available
- **Description:** No information available
- **CEFIC Tremcard No:** 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
- **Description:** No information available
- **IMDG Page:** No information available
- **Marine Pollutant:** No information available
- **MFAQ:** No information available
- **Maximum Quantity:** No information available

**RID**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available

**Product code:** P-213  **Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
14. TRANSPORT INFORMATION

Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: 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
Description: 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
Description: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL (PICCS)</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Present</td>
<td>Present KE-35400</td>
<td>Present</td>
<td>Not present</td>
<td>Present</td>
<td>Present</td>
<td>Present 231-791-2</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>Present</td>
<td>Present KE-10801</td>
<td>Present</td>
<td>Present (2)-1456</td>
<td>Present</td>
<td>Present</td>
<td>Present 201-766-0</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Present</td>
<td>Present KE-29149</td>
<td>Present</td>
<td>Present (1)-439</td>
<td>Present</td>
<td>Present</td>
<td>Present 231-695-4</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Present</td>
<td>Present KE-03350</td>
<td>Present</td>
<td>Not present</td>
<td>Not present</td>
<td>Present</td>
<td>Present 215-136-8</td>
</tr>
</tbody>
</table>

U.S. Regulations

L-Tartaric Acid
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1099

Potassium Iodide
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1634


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>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

CERCLA/SARA

Product code: P-213  
Product name: POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
Components | 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
--- | --- | --- | --- | --- | ---
Water | None | None | None | None | None
L-Tartaric Acid | None | None | None | None | None
Potassium Iodide | None | None | None | None | None
Bismuth Subnitrate | None | None | None | None | None

### U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

### Canada

**WHMIS hazard class:**
D2B  Toxic materials

**Water**
Uncontrolled product according to WHMIS classification criteria

**L-Tartaric Acid**
E

**Potassium Iodide**
D2A

**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.

<table>
<thead>
<tr>
<th>Components</th>
<th>WHMIS Ingredient Disclosure List -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Iodide</td>
<td>1 %</td>
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</table>

### Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Potassium Iodide</td>
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<td>Not Listed</td>
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<tr>
<td>Bismuth Subnitrate</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>L-Tartaric Acid</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Potassium Iodide</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

### EU Classification

**R-phrase(s)**
R36 - Irritating to eyes.

**Product code:** P-213  **Product name:** POTASSIUM-BISMUTH IODIDE TS, (U.S.P. TEST SOLUTION)
**S -phrase(s)**
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
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<td></td>
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<tr>
<td>L-Tartaric Acid</td>
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<td>No information</td>
<td></td>
</tr>
<tr>
<td>Potassium Iodide</td>
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<td>No information</td>
<td></td>
</tr>
<tr>
<td>Bismuth Subnitrate</td>
<td></td>
<td>No information</td>
<td></td>
</tr>
</tbody>
</table>

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

**Indication of danger:**
Xi - Irritant.

![Xi]

**16. OTHER INFORMATION**
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="200.png" alt="Safety Diamond" /></td>
<td><img src="2.png" alt="Health Hazard" /></td>
<td><img src="2.png" alt="Mouth" /> <img src="2.png" alt="Goggles" /> <img src="2.png" alt="Gloves" /></td>
</tr>
<tr>
<td><img src="0.png" alt="Fire Hazard" /></td>
<td><img src="0.png" alt="Reactivity" /></td>
<td></td>
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</tbody>
</table>

Preparation Date: 10/22/2014
Revision Date: 10/22/2014
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.

See Section 8.

End of Material Safety Data Sheet