

## SAFETY DATA SHEET

Preparation Date: 12/18/2018

Revision date 12/18/2018

Revision Number: G1

### 1. Identification

#### Product identifier

**Product code:** P1338  
**Product Name:** PYRIDOSTIGMINE BROMIDE, USP

#### Other means of identification

**Synonyms:** Dimethylcarbamic acid ester of 3-hydroxy-1-methylpyridinium bromide  
 3-Hydroxy-1-methylpyridinium bromide dimethylcarbamate (ester)  
 Mestinone bromide  
 Pyridinium, 3-(((dimethylamino)carbonyl)oxy)-1-methyl-, bromide 1-5130

**CAS #:** 101-26-8  
**RTECS #** UU5270000  
**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 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:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 2
Skin sensitization	Category 1

#### Label elements

##### Danger

##### Hazard statements

Fatal if swallowed  
 May cause an allergic skin reaction



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing must not be allowed out of the workplace  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

IF ON SKIN: Wash with plenty of water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
Pyridostigmine Bromide	101-26-8	100

**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. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

**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. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion:** Fatal if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

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

**Symptoms** May cause sensitization by skin contact  
 May cause anorexia  
 May cause abdominal pain, nausea, vomiting, diarrhea  
 Confusion  
 Ataxia  
 Slurred speech  
 Muscle weakness  
 Fatigue  
 Coma  
 Convulsions  
 Bradycardia  
 May cause irritation of respiratory tract  
 May cause eye irritation

**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 chemical. Carbon dioxide (CO2). Water spray, mist, or foam.

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

**Specific hazards arising from the chemical**

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx). Halogenated compounds.

**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. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### 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. Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. 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. 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. Do not breathe dust. Do not ingest. 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 away from incompatible materials. Store at room temperature in the original container.

#### **Incompatible Materials:**

Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Pyridostigmine Bromide	101-26-8	None	None	None	None

##### **Canada**

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Pyridostigmine Bromide	101-26-8	None	None	None	None

### Australia and Mexico

Component	CAS No	Australia	Mexico
Pyridostigmine Bromide	101-26-8	None	None

### 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:

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. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Physical state:

Solid

#### Appearance:

Crystalline powder.

#### Color:

White.

#### Odor:

Agreeable.

#### Taste

No information available.

#### Formula

C9H13BrN2O2

#### Molecular/Formula weight (g/mole):

261.12

#### Flammability (solid, gas)

no data available

#### Flashpoint (°C/°F):

> 93.3°C/ > 200°F

#### Flash Point Tested according to:

Closed cup

#### Autoignition Temperature (°C/°F):

No information available

#### Lower Explosion Limit (%):

No information available

#### Upper Explosion Limit (%):

No information available

#### Melting point/range(°C/°F):

152-157°C/305.6-314.6°F

#### Decomposition temperature(°C/°F):

No information available

#### Boiling point/range(°C/°F):

No information available

#### Bulk density:

No information available

#### Density (g/cm3):

No information available

Product code: P1338

Product name: PYRIDOSTIGMINE  
BROMIDE, USP

Page

**Specific gravity:**  
No information available

**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):**  
No information available

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Soluble in Water  
Insoluble in Ether  
Insoluble in Acetone  
Practically insoluble in Benzene  
Freely soluble in alcohol  
Freely soluble in Chloroform  
Slightly soluble in hexane

## 10. STABILITY AND REACTIVITY

### Reactivity

No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

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

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous decomposition products:** Nitrogen oxides (NOx). Carbon oxides. Halogenated compounds.

### 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:**  
Skin. Inhalation. Ingestion. Eyes.

### Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document  
**Component Information**

Pyridostigmine Bromide	
CAS No	101-26-8

**Product code:** P1338

**Product name:** PYRIDOSTIGMINE  
BROMIDE, USP

**Page**

LD50/oral/rat = = 37500 µg/kg Oral LD50 Rat  
LD50/oral/mouse = = 16 mg/kg Oral LD50 Mouse  
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 Information

LD50/oral/rat =  
Value - Acute Tox = 37500 µg/kg

LD50/oral/mouse =  
Value - Acute Tox Oral = 16 mg/kg

LD50/dermal/rabbit  
Value - Acute Tox = 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 allergic skin reaction.

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

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

**Ingestion** Fatal if swallowed. May cause anorexia. May cause abdominal pain, nausea, vomiting, diarrhea. May affect behavior/central nervous system (ataxia). May cause fatigue. May affect behavior/central nervous system (coma). May affect behavior/central nervous system (muscle weakness, convulsions).

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** May cause sensitization by skin contact.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Pyridostigmine Bromide	101-26-8	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:** May cause adverse reproductive effects based on animal data

**Developmental Effects:** No information available

**Teratogenic Effects:** May cause birth defects (teratogenic effects) based on animal test data

### **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 in soil** No information available

**Other adverse effects** 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

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Pyridostigmine Bromide	101-26-8	None	None	None	None

## 14. TRANSPORT INFORMATION



**DOT**

**UN-No:** UN2811  
**Proper Shipping Name:** Toxic solids, organic, n.o.s.  
**Hazard Class** 6.1  
**Subsidiary Class** No information available  
**Packing group:** II  
**Emergency Response Guide Number** 154  
**Marine Pollutant** Severe Marine Pollutant  
**DOT RQ (lbs):** No information available  
**Special Provisions** IB8, IP2, IP4, T3, TP33  
**Symbol(s):** No information available  
**Description:** UN2811, Toxic solids, organic, n.o.s., 6.1, II

**TDG (Canada)**

**UN-No:** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Hazard Class** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No Information available  
**Description:** UN2811, Toxic solid, organic, n.o.s., 6.1, II

**ADR**

**UN Number** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Packing group** II  
**Subsidiary Risk:** No information available  
**Special Provisions** 274, 614  
**Description:** UN2811, Toxic solid, organic, n.o.s., 6.1, II

**IMDG**

**UN-No:** UN2811  
**Proper Shipping Name:** Toxic solids, organic, n.o.s.  
**Hazard Class:** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No information available  
**EMS:** F-A  
**Special Provisions** 274  
**Description** UN2811, Toxic solid, organic, n.o.s. (PYRIDOSTIGMINE BROMIDE), 6.1, II

**RID**

**UN Number** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Subsidiary Risk:** No information available  
**Packing group** II  
**Special Provisions** 274, 614  
**Description:** UN2811, Toxic solid, organic, n.o.s., 6.1, II

**ICAO (air)**

**UN-No:** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Hazard Class** 6.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II

**Description:** UN2811, Toxic solid, organic, n.o.s., 6.1, II  
**Special Provisions** A3, A5

**IATA**

**UN Number** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Subsidiary Risk:** No information available  
**Packing group** II  
**Precautionary Statements - Response** 6L  
**Special Provisions** No information available  
**Description:** UN2811, Toxic solid, organic, n.o.s., 6.1, II

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
<i>Pyridostigmine Bromide</i>	101-26-8	Not Listed	Present KE-11135	Not present	Present (9)-648	Not listed	Not listed	Present 202-929-9

**U.S. Regulations**

**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)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Pyridostigmine Bromide</i>	101-26-8	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Component	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
<i>Pyridostigmine Bromide</i>	101-26-8	None	None	None	None	None

**U.S. TSCA**

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Pyridostigmine Bromide</i>	101-26-8	Not Applicable	Not Applicable

**Canada**

**WHIMIS 2015 - GHS Classifications**

WHMIS 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

#### DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Pyridostigmine Bromide	101-26-8	Not Listed	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Pyridostigmine Bromide	101-26-8	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Pyridostigmine Bromide	101-26-8	Not listed

#### EU Classification

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

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Pyridostigmine Bromide	101-26-8	

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

#### R-phrase(s)

not determined (not applicable)

#### S -phrase(s)

none

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Pyridostigmine Bromide	101-26-8		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:** 12/18/2018  
**Revision date** 12/18/2018  
**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.

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**End of Safety Data Sheet**