

## SAFETY DATA SHEET

Preparation Date: 11/09/2016

Revision Date: 11/09/2016

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** S1190  
**Product Name:** SODIUM BROMATE, CRYSTAL, REAGENT

#### Other means of identification

**Synonyms:** Bromic acid, sodium salt  
**CAS #:** 7789-38-0  
**RTECS #** EF8750000  
**CI#:** Not available

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

**Recommended use:** Analytical reagent.  
**Uses advised against** Not for food or drug use.

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

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

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

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

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

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous according to 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 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Oxidizing solids	Category 2

#### Label elements

##### **Danger**

##### **Hazard statements**

Harmful if swallowed  
 Causes skin irritation  
 Causes serious eye irritation  
 May cause respiratory irritation  
 May intensify fire; oxidizer

**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  
Use only outdoors or in a well-ventilated area  
Wear protective gloves  
Wear eye/face protection  
Keep/Store away from clothing and other combustible materials  
Take any precaution to avoid mixing with combustibles  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking

**Precautionary Statements - Response**

IN CASE OF FIRE: Use water to extinguish. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon may provide limited control.  
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.  
IF ON SKIN: Wash with plenty of water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash it before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
Sodium Bromate	7789-38-0	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.

**Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothing and

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shoes. Get medical attention. If skin irritation persists, call a physician.

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

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

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

**Symptoms** Irritating to eyes, respiratory system and skin. Nose and throat irritation. Can cause lung irritation. Coughing and wheezing. May cause pulmonary edema. Dyspnea (Difficulty breathing and shortness of breath). Headache. Fatigue. May cause methemoglobinemia and cyanosis. May cause hypermotility, diarrhea. Somnolence. It may affect the kidneys. Renal failure. May cause hearing impairment or hearing loss. May cause tinnitus. Anemia. Abdominal pain. Hypotension. May cause bronchitis.

**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:** Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.

**Unsuitable Extinguishing Media:** Dry chemical. Halons. Foam.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** No information available.

**Specific hazards:** Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.) The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Contact with finely divided (powdered) metals may cause ignition (fire) or explosion. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated

**Special Protective Actions for Firefighters**

**Specific Methods:** For large fires, flood fire area with water from a distance. Cool affected containers with flooding quantities of water. DO NOT use combustible materials such as sawdust.

**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:** Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. Keep combustibles (wood, paper, oil, clothing, etc.) away from spilled material.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and material for containment and cleaning up

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

**Methods for cleaning up** Sweep up and shovel. Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Do not use combustible materials such as paper towels, sawdust, clothing, etc. to clean up spill. 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 combustible material. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. 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. Store in a segregated and approved area.

#### **Incompatible Materials:**

Organic materials  
Powdered metals  
Aluminum powder  
Reducing agents  
Combustible materials  
Ammonium salts  
Metal sulfides  
Sulfur  
Phosphorus  
Arsenic

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

## United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Sodium Bromate	7789-38-0	None	None	None	None

## Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Sodium Bromate	7789-38-0	None	None	None	None

## Australia and Mexico

Components	CAS-No.	Australia	Mexico
Sodium Bromate	7789-38-0	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

<b>Eye protection:</b>	Goggles
<b>Skin and body protection:</b>	Chemical resistant apron. Gloves. Long sleeved clothing.
<b>Respiratory protection:</b>	Effective dust mask. or. Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent.
<b>Hygiene measures:</b>	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

<b>Physical state:</b> Solid	<b>Appearance:</b> Crystals.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula:</b> NaBrO3
<b>Molecular/Formula weight:</b> 150.90 g/mol	<b>Flammability:</b> No information available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 381°C/718°F (dec)	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b>		

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1390°C/2530°F

**Bulk density:**  
No information available

**Density (g/cm<sup>3</sup>):**  
3.34

**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  
Solubility in Water (g/100 g water):  
27.5 at 0 deg. C; 36.4 at 20 deg. C;  
48.8 at 40 deg. C; 62.6 at 60 deg. C;  
75.8 at 80 deg. C; 90.8 at 100 deg. C  
Insoluble in Ethanol

## 10. STABILITY AND REACTIVITY

### Reactivity

Oxidizer. Reacts with reducing agents, organic material, combustible materials, and powdered metals  
Contact with combustible materials (wood, paper, oil, clothing, etc.) may cause fire  
It may be a fire risk in contact with organic materials

### Chemical stability

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

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

**Conditions to avoid:** Heat, flames and sparks. Ignition sources. Avoid dust formation. Incompatible materials. Contact with combustible materials (wood, paper, oil, clothing, etc.).

**Incompatible Materials:**  
Organic materials  
Powdered metals  
Aluminum powder  
Reducing agents  
Combustible materials  
Ammonium salts  
Metal sulfides  
Sulfur  
Phosphorus  
Arsenic

**Hazardous decomposition products:** Sodium oxides. Hydrogen Bromide.

### Other Information

**Corrosivity:** No information available

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

## 11. TOXICOLOGICAL INFORMATION

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## Information on likely routes of exposure

### Principal Routes of Exposure:

Ingestion. Inhalation.

## Acute Toxicity

### Component Information

Sodium Bromate	
CAS-No.	7789-38-0

**LD50/oral/rat** = 400 mg/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

### Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = 400 mg/kg

**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:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Inhalation** Causes respiratory tract irritation. It may cause pulmonary edema. May cause methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin). Methemoglobinemia can lead to cyanosis (bluish skin and lips due to deficient oxygenation of the blood).

**Ingestion** Harmful if swallowed. May cause tinnitus. May cause hearing loss. May cause vomiting. May cause diarrhea. May cause abdominal pain. May affect the cardiovascular system (hypotension). May cause fatigue. May affect

behavior/central nervous system (dizziness, drowsiness). May affect the blood (anemia). May affect urinary system (kidneys).

**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. Prolonged or repeated inhalation may cause bronchitis with coughing, phlegm, and/or shortness of breath. Chronic exposure may cause ringing in the ears (tinnitus). Chronic exposure may cause hearing loss.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Sodium Bromate	7789-38-0	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. Do not re-use empty containers  
Dispose of as unused product.

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Sodium Bromate	7789-38-0	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Subsidiary Class:** No information available  
**Packing group:** II  
**Emergency Response Guide Number:** 141  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions:** IB8, IP2, IP4, T3, TP33  
**Symbol(s):** No information available  
**Description:** UN1494, Sodium bromate ,5.1,PG II UN1494, Sodium bromate, 5.1, II

### TDG (Canada)

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant:** No Information available  
**Description:** UN1494,SODIUM BROMATE,5.1,PG II UN1494, Sodium bromate, 5.1, II

### ADR

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Description:** UN1494 Sodium bromate,5.1,II UN1494, Sodium bromate, 5.1, II

### IMO / IMDG

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant:** No information available  
**EMS:** F-H  
**Description:** UN1494, Sodium bromate, 5.1, II

### RID

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN1494 Sodium bromate,5.1,II UN1494, Sodium bromate, 5.1, II

**ICAO**

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN1494,Sodium bromate,5.1,PG II UN1494, Sodium bromate, 5.1, II

**IATA**

**UN-No:** UN1494  
**Proper Shipping Name:** Sodium bromate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 5L  
**Special Provisions** No information available  
**Description:** UN1494,Sodium bromate,5.1,PG II UN1494, Sodium bromate, 5.1, II

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Sodium Bromate	7789-38-0	Present	Present KE-31367	Present	Present (1)-115	Present	Present	Present 232-160-4

**U.S. Regulations**

*Sodium Bromate*

**New Jersey RTK Hazardous Substance List:** 1686

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

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

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

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

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

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Sodium Bromate	7789-38-0	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Sodium Bromate	7789-38-0	None	None	None	None	None

## U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Sodium Bromate	7789-38-0	Not Applicable	Not Applicable

## Canada

### WHMIS hazard class:

C Oxidizing materials

### Components Sodium Bromate

**WHIMHAZ**  
C

### 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.

Components	WHMIS Ingredient Disclosure List -
Sodium Bromate	1 %

### Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Sodium Bromate	7789-38-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Sodium Bromate	7789-38-0	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Sodium Bromate	7789-38-0	Not listed

### EU Classification

#### R-phras(e)s

R 8 - Contact with combustible material may cause fire.  
R22 - Harmful if swallowed.  
R36/37/38 - Irritating to eyes, respiratory system and skin.

#### S -phras(e)s

S17 - Keep away from combustible material.  
S37 - Wear suitable gloves.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Sodium Bromate	7789-38-0		No information	

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

### Indication of danger:

Xn - Harmful.

O - Oxidising.



## 16. OTHER INFORMATION

**Preparation Date:** 11/09/2016  
**Revision Date:** 11/09/2016  
**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**