

# SAFETY DATA SHEET

# spectrum®



Revision date 07-July-2021

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** TETRABUTYLPHOSPHONIUM BROMIDE

### Other means of identification

**Product Code(s)** T2434

**UN/ID no** UN2811

**Synonyms** None

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

**Recommended use** No information available

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

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

### Emergency telephone number

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 2
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Danger**

#### Hazard statements

Harmful if swallowed  
Fatal in contact with skin  
Causes serious eye damage

May cause respiratory irritation



**Appearance** Crystalline powder

**Physical state** Solid

**Odor** No information available

#### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not get in eyes, on skin, or on clothing  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection

#### Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor  
IF ON SKIN: Wash with plenty of water and soap  
Immediately call a POISON CENTER or doctor  
Take off immediately all 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 if you feel unwell  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
Rinse mouth

#### Precautionary Statements - Storage

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

#### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

#### Unknown acute toxicity

#### Other information

No information available.

### 3. Composition/information on ingredients

#### Substance

Chemical name	CAS No	Weight-%	Trade secret
Tetrabutylphosphonium Bromide	3115-68-2	100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. First-aid measures

#### Description of first aid measures

##### General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

##### Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or

concerned: Get medical advice/attention.

<b>Eye contact</b>	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area.
<b>Skin contact</b>	Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

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

**Symptoms** Burning sensation.

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

**Note to physicians** Treat symptomatically.

### **5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	none.
<b>Sensitivity to static discharge</b>	none.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

### **6. Accidental release measures**

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

<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

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

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

#### **Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Take off contaminated clothing and wash before reuse. Do not eat, drink or smoke when using this product. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Hygroscopic. It absorbs moisture from the air. Protect from moisture. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

#### **Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

### Appropriate engineering controls

#### **Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

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

#### **Eye/face protection**

Tight sealing safety goggles.

#### **Hand protection**

Wear suitable gloves. Impervious gloves.

#### **Skin and body protection**

Impervious clothing. Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

#### **Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### **General hygiene considerations**

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

#### **Physical state**

Solid

#### **Appearance**

Crystalline powder

#### **Color**

White; Off-white; Cream

#### **Odor**

No information available

#### **Odor threshold**

No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	no data available	None known
Melting point / freezing point	104 °C / 219.2 °F	None known
Boiling point / boiling range	no data available	None known
Flash point	290 °C / 554 °F	None known
Evaporation rate	no data available	None known
Flammability (solid, gas)	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	no data available	None known
Relative density	1.8	None known
Water solubility	Soluble in water	None known
Solubility(ies)	no data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	no data available	None known
Decomposition temperature		None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Fatal in contact with skin. (based on components). May cause irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on

components).

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Redness. Burning. May cause blindness.

### Acute toxicity

**Numerical measures of toxicity**

### **Unknown acute toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Tetrabutylphosphonium Bromide 3115-68-2	= 420 mg/kg ( Rat )	= 197 mg/kg ( Rabbit )	> 3 mg/m <sup>3</sup> ( Rat ) 1 h

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

**Skin corrosion/irritation** May cause skin irritation.  
**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.  
**Respiratory or skin sensitization** No information available.  
**Germ cell mutagenicity** No information available.  
**Reproductive toxicity** No information available.  
**STOT - single exposure** May cause respiratory irritation.  
**STOT - repeated exposure** No information available.  
**Aspiration hazard** No information available.  
**Other adverse effects** No information available.  
**Interactive effects** No information available.

## **12. Ecological information**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.  
**Persistence and degradability** No information available.  
**Bioaccumulation** Inherently biodegradable.  
**Other adverse effects** No information available.

## **13. Disposal considerations**

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.  
**Contaminated packaging** Do not reuse empty containers.

## **14. Transport information**

### DOT

UN/ID no

UN2811

**Proper Shipping Name:** Toxic solids, organic, n.o.s.  
**Hazard class** 6.1  
**Packing group:** II  
**Special Provisions** IB8, IP2, IP4, T3, TP33  
**Marine Pollutant** Severe Marine Pollutant  
**Description:** UN2811, Toxic solids, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II  
**Emergency Response Guide Number** 154

**TDG**

**UN-No:** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Hazard class** 6.1  
**Packing Group:** II  
**Description:** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II

**MEX**

**UN-No** UN2811  
**Proper Shipping Name** Toxic solid, organic, n.o.s.  
**Hazard class** 6.1  
**Special Provisions** 274  
**Packing Group** II  
**Description** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II

**ICAO (air)**

**UN-No:** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Hazard class** 6.1  
**Packing Group:** II  
**Special Provisions** A3, A5  
**Description:** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II

**IATA**

**UN number** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Packing group** II  
**Description:** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II

**IMDG**

**UN number** UN2811  
**Proper shipping name** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Packing group** II  
**EmS-No** F-A, S-A  
**Special Provisions** 274  
**Marine pollutant** NP1  
**Description** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II

**RID**

**UN number** UN2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Packing group** II  
**Classification code** T2  
**Special Provisions** 274, 614  
**Description:** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II  
**Labels** 6.1

**ADR**

**UN number** 2811  
**Proper Shipping Name:** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Packing group** II  
**Classification code** T2  
**Tunnel restriction code** (D/E)

**Special Provisions** 274, 614  
**Description:** 2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II, (D/E)  
**Labels** 6.1

**ADN**

**UN/ID No** UN2811  
**Proper shipping name** Toxic solid, organic, n.o.s.  
**Transport hazard class(es)** 6.1  
**Packing Group** II  
**Classification code** T2  
**Special Provisions** 274, 614, 802  
**Description** UN2811, Toxic solid, organic, n.o.s. (Tetrabutylphosphonium Bromide), 6.1, II  
**Hazard label(s)** 6.1  
**Limited quantity (LQ)** 500 g  
**Equipment Requirements** PP, EP

**15. Regulatory information**

**International Inventories**

**TSCA** Complies

**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies  
**ENCS** This product complies with ENCS:  
**IECSC** This product complies with China:  
**KECL** Complies  
**PICCS** Complies  
**AICS** This product does not comply with AICS

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.



## US State Regulations

### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

## U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

## **16. Other information**

### NFPA

**Health hazards** 3

**Flammability** 1

**Instability** 0

**Physical and chemical properties** -

### HMIS

**Health hazards** 3

**Flammability** 1

**Physical hazards** 0

**Personal protection** X

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value		

### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Revision date** 07-July-2021

**Revision Note** No information available.

### Disclaimer

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**