

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 16.07.2021

Revision: 16.07.2021

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- **1.1 Product identifier**
- **Trade name:** Tetrabutylphosphonium bromide (75% in water)
- **Item number:** 15-1579
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Strem Chemicals, Inc.  
7 Mulliken Way  
NEWBURYPORT, MA 01950  
USA  
info@strem.com
- **Further information obtainable from:** Technical Department
- **1.4 Emergency telephone number:**  
EMERGENCY: CHEMTREC: + 1 (800) 424-9300  
During normal opening times: +1 (978) 499-1600

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



GHS08 health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS05 corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1B H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

**Safety data sheet**  
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Revision: 16.07.2021

**Trade name: Tetrabutylphosphonium bromide (75% in water)**

(Contd. of page 1)

· **Hazard pictograms**



GHS05   GHS06   GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

*tetrabutylphosphonium bromide*

· **Hazard statements**

- H302 Harmful if swallowed.*
- H311 Toxic in contact with skin.*
- H314 Causes severe skin burns and eye damage.*
- H317 May cause an allergic skin reaction.*
- H361 Suspected of damaging fertility or the unborn child.*
- H335 May cause respiratory irritation.*

· **Precautionary statements**

- P101                    If medical advice is needed, have product container or label at hand.*
- P102                    Keep out of reach of children.*
- P103                    Read label before use.*
- P260                    Do not breathe dusts or mists.*
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P310                    Immediately call a POISON CENTER/doctor.*
- P403+P233            Store in a well-ventilated place. Keep container tightly closed.*
- P501                    Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 3115-68-2	tetrabutylphosphonium bromide	75.0%
EINECS: 221-487-8	☠ Acute Tox. 3, H311; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: First aid measures**

· **4.1 Description of first aid measures**

· **General information:**

*Immediately remove any clothing soiled by the product.*

(Contd. on page 3)

**Safety data sheet**  
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**Trade name: Tetrabutylphosphonium bromide (75% in water)**

(Contd. of page 2)

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### **SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### **SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### **SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.

(Contd. on page 4)

**Safety data sheet**  
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Revision: 16.07.2021

**Trade name: Tetrabutylphosphonium bromide (75% in water)**

(Contd. of page 3)

· **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Light brown

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

(Contd. on page 5)

**Safety data sheet**  
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Revision: 16.07.2021

**Trade name: Tetrabutylphosphonium bromide (75% in water)**

(Contd. of page 4)

· <b>Change in condition</b> Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
· <b>Flash point:</b>	290 °C
· <b>Flammability (solid, gas):</b>	Not determined.
· <b>Ignition temperature:</b>	270 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b> Lower:	Not determined.
Upper:	Not determined.
· <b>Vapour pressure:</b>	Not determined.
· <b>Density at 20 °C:</b>	0.46 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b> Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Solvent content:</b> Organic solvents:	0.0 %
VOC (EC)	0.00 %
Solids content:	100.0 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Harmful if swallowed.

(Contd. on page 6)

GB

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Revision: 16.07.2021

**Trade name: Tetrabutylphosphonium bromide (75% in water)**

(Contd. of page 5)

Toxic in contact with skin.

**· LD/LC50 values relevant for classification:**

**3115-68-2 tetrabutylphosphonium bromide**

Dermal	LD50	700 mg/kg (rabbit)
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**· Primary irritant effect:**

**· Skin corrosion/irritation**

Causes severe skin burns and eye damage.

**· Serious eye damage/irritation**

Causes severe skin burns and eye damage.

**· Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**· Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**· Carcinogenicity** Based on available data, the classification criteria are not met.

**· Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**· STOT-single exposure**

May cause respiratory irritation.

**· STOT-repeated exposure** Based on available data, the classification criteria are not met.

**· Aspiration hazard** Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

**· 12.1 Toxicity**

**· Aquatic toxicity:** No further relevant information available.

**· 12.2 Persistence and degradability** No further relevant information available.

**· 12.3 Bioaccumulative potential** No further relevant information available.

**· 12.4 Mobility in soil** No further relevant information available.

**· Additional ecological information:**

**· General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

**· 12.5 Results of PBT and vPvB assessment**

**· PBT:** Not applicable.

**· vPvB:** Not applicable.

**· 12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**

**· 13.1 Waste treatment methods**

**· Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**· Uncleaned packaging:**

**· Recommendation:** Disposal must be made according to official regulations.

GB

(Contd. on page 7)

**Safety data sheet**  
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(Contd. of page 6)

**SECTION 14: Transport information**

· **14.1 UN-Number**

· **ADR, IMDG, IATA** UN2922

· **14.2 UN proper shipping name**

· **ADR** 2922 CORROSIVE LIQUID, TOXIC, N.O.S.  
· **IMDG, IATA** CORROSIVE LIQUID, TOXIC, N.O.S.

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 8 Corrosive substances.  
· **Label** 8+6.1

· **IMDG**



· **Class** 8 Corrosive substances.  
· **Label** 8/6.1

· **IATA**



· **Class** 8 Corrosive substances.  
· **Label** 8 (6.1)

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:** Not applicable.

· **14.6 Special precautions for user** Warning: Corrosive substances.

· **EMS Number:** F-A,S-B

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

*Not applicable.*

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L  
· **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S., 8 (6.1), III

GB

(Contd. on page 8)

**Safety data sheet**  
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**Trade name: Tetrabutylphosphonium bromide (75% in water)**

(Contd. of page 7)

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Relevant phrases**

H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

· **Department issuing SDS:** Technical Department.

· **Contact:** Technical Director

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Acute Tox. 4: Acute toxicity – Category 4  
Acute Tox. 3: Acute toxicity – Category 3  
Skin Corr. 1C: Skin corrosion/irritation – Category 1C  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
Skin Sens. 1B: Skin sensitisation – Category 1B  
Repr. 2: Reproductive toxicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3