

# SAFETY DATA SHEET

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## SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

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**CAS Number:** 12179-04-3  
**Product Name:** Borax Pentahydrate  
**Revision Date:** Mar 14, 2018 **Date Printed:** Mar 14, 2018  
**Version:** 1.1 **Supersedes Date:** Jul 04, 2017  
**Manufacturer's Name:** Thames River Chemical Corp.  
**Address:** 5230 Harvester Road Burlington, ON, CA, L7L 4X4  
**Emergency Phone:** CHEMTREC (800) 424-9300  
**Information Phone Number:** 905-681-5353  
**Fax:** 905-681-5377  
**Product/Recommended Uses:** For laboratory or industrial use only.

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## SECTION 2) HAZARDS IDENTIFICATION

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### Classification

Eye Irritation - Category 2B  
Germ Cell Mutagenicity - Category 2  
Reproductive Toxicity - Category 1B

### Pictograms



### Signal Word

Danger

### Hazard Statements - Health

Causes eye irritation  
Suspected of causing genetic defects.  
May damage fertility or the unborn child.

### Precautionary Statements - General

If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

### Precautionary Statements - Prevention

Wash thoroughly/Wash hands thoroughly after handling.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
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.  
If eye irritation persists: Get medical advice/attention.  
IF exposed or concerned: Get medical advice/attention.

### Precautionary Statements - Storage

Store locked up.

### Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

### Physical Hazards Not Otherwise Classified

No Data Available

### Health Hazards Not Otherwise Classified

No Data Available

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## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

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CAS	Chemical Name	% By Weight
0012179-04-3	BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)	100%

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## SECTION 4) FIRST-AID MEASURES

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### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

### Eye Contact

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes or until medical aid is available. If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If irritation persists for more than 30 minutes, seek medical attention.

### Skin Contact

No treatment necessary because product is non-irritating.

### Ingestion

If large amounts are swallowed (i.e. more than one teaspoon), give two glasses of water or milk to drink and seek medical attention.

Note to physicians:

Observation only is required for adult ingestion of less than 7 grams of borax pentahydrate. For ingestion in excess of 7 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Haemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

### Most Important Symptoms and Effects, Both Acute and Delayed

No Data Available

### Indication of Any Immediate Medical Attention and Special Treatment Needed

No Data Available

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## SECTION 5) FIRE-FIGHTING MEASURES

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### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Large Fire: Water spray, fog or alcohol-resistant foam.

### Unsuitable Extinguishing Media

None, because borax pentahydrate is not flammable, combustible or explosive. The product is itself a flame retardant.

### Specific Hazards in Case of Fire

None, because borax pentahydrate is not flammable, combustible or explosive. The product is itself a flame retardant.

### Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done safely.

## Special Protective Actions

Wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

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## SECTION 6) ACCIDENTAL RELEASE MEASURES

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### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ventilate closed spaces before entering.

### Recommended Equipment

Wear chemical protective clothing.

### Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Dike far ahead of liquid spill for later disposal.

### Methods and Materials for Containment and Cleaning up

Absorb Liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal.

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## SECTION 7) HANDLING AND STORAGE

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### General

Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Eyewash stations and showers should be available in areas where this material is used and stored. All containers must be properly labelled.

### Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits.

### Storage Room Requirements

Store in dry, cool areas, out of direct sunlight and away from other sources of heat. Empty container retain residue and may be dangerous.

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## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Eye protection

Wear indirect-vent, impact and splash resistant goggles when working with liquids

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CANsmg	CANsppm	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)	OSHA Skin designation	ACGIH STEL (mg/m3)

BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)	3		1																	6 (I)
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Chemical Name	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis	ACGIH Carcinogen	ACGIH Notations
BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)		2 (I)		URT irr	A4	A4

(I) - Inhalable fraction, A4 - Not Classifiable as a Human Carcinogen, irr - Irritation, URT - Upper respiratory tract

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## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

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### Physical and Chemical Properties

Density	14.44 lb/gal
Specific Gravity	1.73

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Appearance	white crystals powder
Odor Description	odourless
Odor Threshold	N/A
pH	9.3 (3% solution)
Melting Point	200 °C
Low Boiling Point	1575 °C
High Boiling Point	N/A
Flash Point	non flammable
Vapor Pressure	négligeable (20°C)
Vapor Density	No Data Available
Evaporation Rate	not known – not volatile
Upper Explosion Level	N/A
Lower Explosion Level	N/A
Water Solubility	3.7% at 20°C; 51.2% at 100°C
Coefficient Water/Oil	Log Po/w = -1.53
Viscosity	not applicable – solid material

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## SECTION 10) STABILITY AND REACTIVITY

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### Reactivity

No Data Available

### Stability

Borax pentahydrate is a stable product, but when heated it losses water, eventually forming anhydrous borax (Na<sub>2</sub> B<sub>4</sub> O<sub>7</sub>).

### Conditions to Avoid

No data available.

### Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

### Incompatible Materials

Reaction with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals will generate hydrogen gas which could create an explosive hazard.

### Hazardous Decomposition Products

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## SECTION 11) TOXICOLOGICAL INFORMATION

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### Likely Route of Exposure

Inhalation, ingestion, skin absorption

### Acute Toxicity

Ingestion

Low acute oral toxicity; LD50 in rats is 3,200 to 3,500 mg/kg of body weight.

Skin

Low acute dermal toxicity; LD50 in rabbits is greater than 2,000 mg/kg of body weight. Borax pentahydrate is poorly absorbed through intact skin.

Inhalation

Low acute inhalation toxicity; LC50 in rats is greater than 2.0 mg/l (or g/m3).

### Aspiration Hazard

No Data Available

### Carcinogenicity

No Data Available

### Germ Cell Mutagenicity

Suspected of causing genetic defects.

### Reproductive Toxicity

May damage fertility or the unborn child.

### Respiratory/Skin Sensitization

No Data Available

### Serious Eye Damage/Irritation

Causes eye irritation

### Skin Corrosion/Irritation

No Data Available

### Specific Target Organ Toxicity - Repeated Exposure

No Data Available

### Specific Target Organ Toxicity - Single Exposure

No Data Available

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## SECTION 12) ECOLOGICAL INFORMATION

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### Toxicity

Algal toxicity:

Green algae, *Scenedesmus subspicatus*

96-hr IC10 = 24 mg B/l

Invertebrate toxicity:

Daphnia, *Daphnia magna* Straus

24-hr IC50 = 242 mg B/l

Fish toxicity, Sea water:

Dab, *Limanda limanda*

96-hr LC50 = 74 mg B/l

### Mobility in Soil

The product is soluble in water and is leachable through normal soil.

### Bio-accumulative Potential

No Data Available

### Persistence and Degradability

Boron is naturally occurring and ubiquitous in the environment. Borax pentahydrate decomposes in the environment to natural borate.

### Other Adverse Effects

No Data Available

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## SECTION 13) DISPOSAL CONSIDERATIONS

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### Waste Disposal

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, provincial and local laws.

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## SECTION 14) TRANSPORT INFORMATION

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### Transport Canada Information

UN number: Not Regulated

Proper shipping name: N/A

Hazard class: N/A

Packaging group: N/A

### U.S. DOT Information

UN number: Not Regulated

Proper shipping name: N/A

Hazard class: N/A

Packaging group: N/A

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## SECTION 15) REGULATORY INFORMATION

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CAS	Chemical Name	% By Weight	Regulation List
0012179-04-3	BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)	100%	REACH_SVHC - REACH_Substances of Very High Concern

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## SECTION 16) OTHER INFORMATION

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### Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CANsmg or CANspmm - Canadian Short Term Exposure Level in mg/L or in ppm; CANTmg or CANTppm - Canadian Time Weighted Average in mg/L or in ppm; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal

Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

**Version 1.1:**

Revision Date: Mar 14, 2018

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