



# Safety Data Sheet


## Boric Acid



### 1. Identification

<b>Product identifier</b>	Boric Acid
<b>Product code</b>	N/A
<b>Other means of identification</b>	Orthoboric acid. Boric Acid - Manufacturing Grade.
<b>Recommended use of the chemical and restrictions on use</b>	Biocide agent.
<b>Distributor</b>	<p>Sylvite 3221 North Service Road, Suite 200 Burlington, Ontario Canada L7N 3G2</p> <p>Tel. 1-800-229-0602 Fax 905-315-2083 <a href="https://www.sylvite.ca/">https://www.sylvite.ca/</a></p>
<b>Emergency phone number</b>	1-800-229-0602

### 2. Hazard identification

<b>Summary</b>	Avoid contact with eyes. Avoid breathing dust. Use in a manner that avoids generating dust. Do not ingest. If medical advice is needed, have this SDS or label at hand. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved.
<b>WHMIS 2015/GHS/OSHA HCS 2012</b>	
 <p>Reproductive toxicity (Category 1B)</p> <p><b>DANGER</b></p> <p>H360: May damage fertility or the unborn child  P201: Obtain special instructions before use.  P202: Do not handle until all safety precautions have been read and understood.  P280: Wear protective gloves, protective clothing and eye protection.  P308+313: IF exposed or concerned: Get medical attention.  P405: Store locked up.  P501: Dispose of contents and container to a licensed chemical disposal agency in accordance with local, regional and national regulations.</p>	

### 3. Composition/information on ingredients

Common name	CAS	Weight % content
Boric acid	10043-35-3	>99.9 %

## 4. First-aid measures

<b>Inhalation</b>	Move person to fresh air. If not breathing, give artificial respiration. If a problem develops or persists, seek medical attention.
<b>Skin contact</b>	Wash skin with warm water and mild soap. Remove contaminated clothing and wash before reuse. If a problem develops or persists, seek medical attention.
<b>Eye contact</b>	Flush with water for at least 15 minutes. Remove contact lenses if easy to do. Hold eyelids apart to rinse properly. If a problem develops or persists, seek medical attention.
<b>Ingestion</b>	If victim is conscious wash out mouth with water and give 1-2 glasses of water to drink. Never give anything by mouth if victim is unconscious or convulsing. If ingestion of a large amount does occur, seek medical attention or contact a Poison Centre immediately.
<b>Other</b>	No additional information.
<b>Symptoms</b>	May cause redness and slight irritation of the eyes.
<b>Notes to the physician</b>	Apply a symptomatic and supportive treatment.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use an extinguishing agent appropriate for the surrounding fire.
<b>Specific hazards arising from the chemical</b>	No hazard listed.
<b>Special protective equipment</b>	Firefighters must wear self contained breathing apparatus with full face mask.
<b>Special protective actions for fire-fighters</b>	No additional information.

## 6. Accidental release measures


<b>Personal precautions, protective equipment and emergency procedures</b>	Make sure to wear personal protective equipment mentioned in this Safety Data Sheet.
<b>Environmental precautions</b>	Prevent entry into sewers, closed areas and release to the environment.
<b>Methods and materials for containment and cleaning up</b>	Ventilate the area well. Pick up with a shove, a broom, or vacuum. Take care not to scatter dust Finish cleaning by rinsing with water contaminated surface.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Use in well ventilated area. Avoid breathing dust. Use in a manner that avoids generating dust. Avoid contact with skin, eyes and clothing. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved. Keep containers tightly closed when not in use. Do not eat, do not drink and do not smoke during use. Wash hands, forearms and face thoroughly after handling this compound and before eating, drinking or using toiletries. Remove contaminated clothing and wash before reuse.
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<b>Conditions for safe storage, including any incompatibilities</b>	Store tightly closed and in properly labelled containers in a cool, dry and well ventilated place. Store away from incompatible materials (see section 10). Keep away from moisture. Product is hygroscopic and tends to cake on storage.
<b>Storage temperature</b>	<40°C (104°F)

## 8. Exposure controls/personal protection

<b>Immediately Dangerous to Life or Health</b>	No IDLH value is reported.		
Boric acid	STEL TWA (8h)	6 mg/m <sup>3</sup> 2 mg/m <sup>3</sup>	ACGIH , BC, ON, RSST ACGIH , BC, ON, RSST
<b>Appropriate engineering controls</b>	Provide sufficient mechanical (general and/or local exhaust) to keep the airborne concentrations of dust below their respective occupational exposure limits.		
<b>Individual protection measures</b>			
<b>Eye</b>	In the workplace, wear safety glasses with side shields. However, goggles are recommended if the product is used in such a way as to generate high dust levels.		
<b>Hands</b>	In case of prolonged contact wear neoprene or nitrile gloves. Disposable nitrile gloves can also be used, but discard after single use. Before using, user should confirm impermeability. Discard gloves with tears, pinholes, or signs of wear. Gloves must only be worn on clean hands.		
<b>Skin</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Wear normal work clothing covering arms and legs as required by employer code. If necessary, wear an apron or long-sleeve protective coverall suit.		
<b>Respiratory</b>	Respiratory protection is not required for normal use. Where the conditions in the workplace require a respirator, it is necessary to follow a respiratory protection program. Moreover, respiratory protection equipment (RPE) must be selected, fitted, maintained and inspected in accordance with regulations and standard 29 CFR 1910.134 (OSHA), ANSI Z88.2 or CSA Z 94.11 (Canada) and approved by NIOSH/MSHA. For dust nuisance exposures use type N95 particle respirator.		
<b>Feet</b>	Not required in normal use.		
 Safety glasses			

## 9. Physical and chemical properties

<b>Physical state</b>	Crystalline solid	<b>Flammability</b>	Non-flammable
<b>Colour</b>	White	<b>Flammability limits</b>	N/Ap.
<b>Odour</b>	Odourless	<b>Flash point</b>	N/Ap.
<b>Odour threshold</b>	N/Av.	<b>Auto-ignition temperature</b>	N/Ap.
<b>pH</b>	3.7 @ 4.7%	<b>Sensibility to electrostatic charges</b>	No
<b>Melting point</b>	>1000°C (1832°F)	<b>Sensibility to sparks and/or friction</b>	No
<b>Freezing point</b>	>1000°C (1832°F)	<b>Vapour density</b>	N/Av. (Air = 1)
<b>Boiling point</b>	N/Av.	<b>Relative density</b>	1.49 kg/L (Water = 1)

<b>Solubility</b>	Soluble in water. 49-55 g/L	<b>Partition coefficient n-octanol/water</b>	N/Av.
<b>Evaporation rate</b>	N/Av.	<b>Decomposition temperature</b>	N/Av.
<b>Vapour pressure</b>	N/Av.	<b>Viscosity</b>	N/Av.
<b>Percent Volatile</b>	N/Av.	<b>Molecular mass</b>	61.84
N/Av.: Not Available    N/Av.: Not Applicable    Und.: Undetermined    N/E: Not Established			

## 10. Stability and reactivity

<b>Reactivity</b>	When the product is heated, it loses water, eventually forming anhydrous borates (Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ). At 58-60 °C, may explode when mixed with acetic anhydride.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions (including polymerizations)</b>	A dangerous reaction will not occur.
<b>Conditions to avoid</b>	Avoid high temperatures and intense heat.
<b>Incompatible materials</b>	Strong bases, strong reducing agents (e.g. potassium, sodium, lithium, metal hydrides), acetic anhydride.
<b>Hazardous decomposition products</b>	No decomposition product.

## 11. Toxicological information


<b>Numerical measures of toxicity</b>	Boric acid Ingestion >2000 mg/kg Rat LD50 Inhalation >2 mg/l/4h Rat LC50 Skin >2000 mg/kg Rabbit LD50
<b>Likely routes of exposure</b>	Skin, eyes, inhalation.
<b>Delayed, immediate and chronic effects</b>	<p><b>Eye contact</b> May cause redness and slight irritation of the eyes. Boric acid (CAS no 10043-35-3) is not irritating to the eyes in rabbits (OECD 405).</p> <p><b>Skin contact</b> Prolonged or repeated contact may cause skin irritation. Boric acid (CAS no 10043-35-3) is not a skin irritant in animals studies (OECD 405).</p> <p><b>Inhalation</b> Inhalation of boric acid, borates and borax as dusts in workers produce nasal and throat irritation, cough and breathlessness. No effects on lung function were observed. It was concluded that these effects are most likely due to the physical exposure to the dust of these chemicals rather than a specific irritant chemical effect.</p> <p><b>Ingestion</b> There is a large database of accidental or intentional boron poisoning incidents in humans following exposure to simple inorganic borates. A review of more than 700 cases of acute boric acid exposures in adults and children found that 88.3% of cases were without symptoms. Swallowing high doses of inorganic borate salts may cause gastrointestinal symptoms. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.</p> <p><b>Respiratory or skin sensitization</b> Ingredients present at levels greater than or equal to 0.1% of this product are not skin or respiratory sensitizers.</p> <p><b>IARC/NTP Classification</b> No ingredients listed.</p> <p><b>Carcinogenicity</b> Ingredients present at levels greater than or equal to 0.1% of this product are not listed as a carcinogen by IARC, ACGIH, NIOSH, NTP or OSHA.</p> <p><b>Mutagenicity</b> Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause mutagenic effects.</p>

	<p><b>Reproductive toxicity</b> Boric acid (CAS 10043-35-3) may cause adverse effects on sperm production and may also cause an embryotoxic and/or fetotoxic in animals. However, there is no clear evidence of male reproductive effects attributable to boron in studies of highly exposed workers.</p> <p><b>Specific target organ toxicity - single exposure</b> No target organ is listed.</p> <p><b>Specific target organ toxicity - repeated exposure</b> No target organ is listed.</p>
<b>Interactive effects</b>	No information available.
<b>Other information</b>	No additional information.

## 12. Ecological information

<b>Ecological toxicity</b>	Fish - Fathead minnow, Pimephales promelas - fresh water	LC50	79.7 mg borate/L; 96h (CAS no 10043-35-3)
	Aquatic Invertebrate - Ceriodaphnia dubia (fresh water)	EC50	91 mg borate/L; 48h (CAS no 10043-35-3)
	Aquatic plant - Pseudokirchneriella subcapitata - Fresh water	EC50	52.4 mg borate/L; 72h (CAS no 10043-35-3)
<b>Persistence</b>	Inorganic compounds persist in the environment indefinitely or incorporate into biological systems.		
<b>Degradability</b>	The term biodegradability, as such, is not applicable to inorganic compounds.		
<b>Bioaccumulative potential</b>	Inorganic compounds may be incorporate into biological systems.		
<b>Mobility in soil</b>	Based on the high solubility in water, a high mobility in soil is to be expected.		
<b>Other adverse effects</b>	This chemical does not deplete the ozone layer.		

## 13. Disposal considerations

	<p><b>Container</b> Important! Prevent waste generation. Use in full. DO NOT dispose residue in sewers, streams or drinking water supply. Dispose via a licensed waste disposal contractor. Empty containers can be treated (recycled) where there is a recovery program. Observe all federal, state/provincial and municipal regulations. If necessary consult the Department of Environment or the relevant authorities.</p>
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## 14. Transport information

<b>UN Number</b>	UN N/A
<b>UN Proper Shipping Name</b>	Not regulated by TDG (Canada) and 49 CFR DOT (USA).
<b>Environmental hazards</b>	This material does not contain marine pollutant.
<b>Special precautions for user</b>	No information available.
<b>TDG - Transportation of Dangerous Goods (Canada &amp; US DOT)</b>	

<b>Transport hazard class(es)</b>	Not regulated
<b>Packing group</b>	Not regulated
<b>Emergency response guidebook 2016</b>	
<b>IMO/IMDG - International Maritime Transport</b>	
<b>Classification</b>	Not regulated
<b>IATA - International Air Transport Association</b>	
<b>Classification</b>	Not regulated
These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. In addition, if a domestic exemption exists, it is the responsibility of the shipper to define the application of it.	

## 15. Regulatory information

### CANADA

Common name	CAS	CEPA	DSL	NDSL	NPRI
Boric acid	10043-35-3		X		

- CEPA: List of Toxic Substances Managed Under Canadian Environmental Protection Act
- DSL: Domestic Substances List Inventory
- NDSL: Non-Domestic Substances List Inventory
- NPRI: National Pollutant Release Inventory Substances

### UNITED STATE OF AMERICA

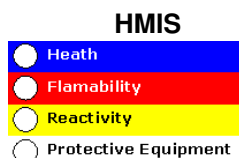
Common name	CAS	TSCA	CER CLA	EPCRA 313	EPCRA 302/304	CAA 112(b) HON	CAA 112(b) HAP	CAA 112(r)	CWA 311	CWA Prio.
Boric acid	10043-35-3	X								

- TSCA: Toxic Substance Control Act
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act list of hazardous substances
- EPCRA 313: Emergency Planning and Community Right-to-Know Act, Section 313 Toxic Chemicals
- EPCRA 302/304: Emergency Planning and Community Right-to-Know Act, Section 302/304 Extremely Hazardous Substances
- CAA 112(b) HON: Clean Air Act - Hazardous Organic National Emission Standard for Hazardous Air Pollutant
- CAA 112(b) HAP: Clean Air Act - Hazardous Air Pollutants lists pollutants
- CAA 112(r): Clean Air Act - Regulated Chemicals for Accidental Release Prevention
- CWA 311: Clean Water Act - List of Hazardous Substances
- CWA Priority: Clean Water Act - Priority Pollutant list

### California Proposition 65

No ingredients listed.

### Other regulations



## 16. Other information

<b>Date (YYYY-MM-DD)</b>	Sylvite 2020-05-11
<b>Version</b>	01
<b>Other information</b>	<p>REFERENCES:</p> <ul style="list-style-type: none"><li>- Service du répertoire toxicologique de la Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), <a href="http://www.reptox.csst.qc.ca">http://www.reptox.csst.qc.ca</a></li><li>- Haz-Map, Information on Hazardous Chemicals and Occupational Diseases, <a href="https://haz-map.com/">https://haz-map.com/</a></li><li>- National Industrial Chemicals Notification and Assessment Scheme (NICNAS), Government of Australia, <a href="https://www.nicnas.gov.au/chemical-information">https://www.nicnas.gov.au/chemical-information</a></li><li>- The National Center for Biotechnology Information, National Institutes of Health (NIH), U.S. National Library of Medicine, <a href="https://pubchem.ncbi.nlm.nih.gov/">https://pubchem.ncbi.nlm.nih.gov/</a></li></ul> <p>ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Association HMIS: Hazardous Materials Identification System NFPA: National Fire Protection Association OSHA: Occupational Safety and Health Administration (USA) NIOSH: National Institute for Occupational Safety and Health NTP: National Toxicology Program RSST: Règlement sur la santé et la sécurité du travail (Québec) GHS: Globally Harmonized System IARC: International Agency for Research on Cancer IDLH: Immediately Dangerous to Life or Health STEL: Short Term Exposure Limit (15 min) TWA: Time Weighted Averages WHMIS: Workplace Hazardous Materials Information System</p> <p>To the best of our knowledge, the information contained herein is accurate. However, neither Prizventis System nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</p>