



THREE ELEPHANT® Boric Acid Safety Data Sheet

1. Product and Company Identification

Product Name	THREE ELEPHANT® Boric Acid
Other Product Name(s)	Boric Acid; Boracic acid; orthoboric acid; Boron Trihydroxide; Hydrogen orthoborate; Trihydroxyborane
Product Use	Manufacturing of products, including, but not limited to, glue, charcoal, reagent chemicals, ceramics, borosilicate glass, fiberglass, alloys. Not for use in the manufacture of pesticides.
Manufacturer	SEARLES VALLEY MINERALS INC. 13200 MAIN STREET; P.O. BOX 367 TRONA, CALIFORNIA 93592-0367 Information (760) 372-2291
Emergency Telephone Numbers	1-800-424-9300 (USA/Canada CHEMTREC) +1 (703) 527-3887 (International & Maritime CHEMTREC)

2. Hazards Identification

Emergency Overview: A white crystalline solid that may cause mild irritation to the skin, eyes and respiratory tract. Not flammable.

OSHA Regulatory Status	Hazardous
WHMIS Regulatory Status	Hazardous
OSHA Classification	Reproductive Toxicity 2 Oral Acute Toxicity Category 5
OSHA Signal Word	WARNING
OSHA Hazard Statements	May damage fertility or the unborn child.
OSHA Precautionary Statements	Do not handle until all safety precautions have been read and understood. Wear protective gloves and safety eyewear. Wash thoroughly after handling. If on skin, wash with plenty of water. Wash contaminated clothing before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing. If skin irritation occurs or eye irritation persists, get medical attention. Store in a well ventilated place. Keep container tightly closed. Dispose of container in accordance with Federal and local regulations.
OSHA Label Symbols	
Other Hazards Not Specified by OSHA	None

** Note: Label designed to meet OSHA & FHSA label requirements and may contain additional phrases.

Potential Health Effects:

Skin	Can cause mild skin irritation.
Eyes	Causes mild eye irritation.
Ingestions	Low toxicity. May cause discomfort.
Inhalation	May cause mild irritation if inhaled
Chronic Effects	May cause reproductive effects affecting fertility and/or development of the unborn child.

Ingredients found on established carcinogen lists:

Ingredient	NTP Status	IARC Statue	OSHA List
No ingredients listed in this section	---	---	---

3. Composition / Information on Ingredients

Chemical Name	CAS #	EINECS #	Wt. %
Boric Acid	10043-35-3	233-139-2	99.75

4. First Aid Measures

Skin	Wash with plenty of water. Wash contaminated clothing before reuse. Seek medical attention if skin irritation occurs.
Eyes	Rinse eyes cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
Ingestions	If you feel unwell, contact a doctor or poison control center.
Inhalation	Remove to fresh air. Seek medical advice in case of irritation.
Advice to Physician	Treat symptomatically.

5. Fire Fighting Measures

Extinguishing Media:	Any media suitable for surrounding fire.
Fire/Explosion Hazards:	None indicated
Fire Fighting Procedures:	Wear normal firefighting gear suitable for surrounding fire. Self-contained respiratory protection may be required.
Flammable Limits:	None
Flash Point	Not flammable
Auto ignition Temperature:	None
Hazardous Combustion Products:	May produce boron compounds if involved in a surrounding fire.

6. Accidental Release Measures

Personal Precautions:	Wear proper personal protective equipment indicated in Section 8.
Containment:	Not normally required as this is a solid material not normally mobile.
Clean Up:	Sweep up and place into container for reuse and/or disposal.
Notification Requirements:	None normally required.

7. Handling and Storage

Handling:	Wear proper personal protective equipment indicated in Section 8. Wash hands before eating or drinking.
Storage:	Should be stored in a dry location. Keep packages tightly closed to minimize dust formation. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Engineering Controls:	Use local exhaust to keep airborne level below safe exposure guidelines listed below.
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Personal Protective Equipment:

Eyes and Face:	Wear safety glasses or chemical dust goggles to avoid accidental eye contact.
Respiratory:	Not required for properly ventilated areas. Otherwise use a NIOSH approved dust respirator.
Hands, Arms, and Body:	Not normally required. Use work glove when handling product transfers or if skin is already irritated. Use rubber or neoprene gloves for handling product solutions.
Other	Safety shower and an eyewash should be available for emergency exposures.

Exposure Guidelines:

Ingredient	ACGIH TLW	ACGIH STEL	OSHA PEL	OSHA STEL	California PEL
Boric Acid (as nuisance dust)	15 mg/m ³ total dust	None	15 mg/m ³ total dust	None	10 mg/m ³ total dust
H ₃ BO ₃	5 mg/m ³ respirable dust		5 mg/m ³ respirable dust		5 mg/m ³ respirable dust

9. Physical and Chemical Properties

Appearance & Physical State	White, crystalline solid
Odor:	None
Odor Threshold:	None
pH (1% solution)	3.9 (4 % solution at 68 °F)
Specific Gravity:	1.44
Bulk Density	Not available
Initial Boiling Point & Range:	Not applicable
Melting Point /Freezing Point:	326.2 °F (169 °C).
Evaporation Rate:	Not applicable
Percent Volatile:	None
Solubility in Water	4.7% at 68 °F (20 °C);
Vapor Density:	Not applicable
Vapor Pressure:	Not applicable
Upper/ Lower Flammable Limits:	None
Flash Point	None
Auto ignition Temperature:	Not flammable
Flammability (solid, gas)	Not flammable
Octanol/water partition coefficient	Not determined
Decomposition temperature	See section 10.
Viscosity	Solid – Not applicable

10. Stability and Reactivity

Stability:	Normally stable. Forms partial hydrate in moist air. When heated, the material is converted to MetaBorax Acid (HBO ₂) On further heating material is converted to Boric Oxide (B ₂ O ₃)
Conditions to Avoid:	Keep away from high temperatures and strong reducing agents
Materials to avoid	Borax Acid reacts with strong reducing agents such as metal hydrides or alkali metals producing explosive hydrogen gas.
Polymerization:	Does not occur.
Hazardous Decomposition Products	None known

11. Toxicological Information

Eye:	Can cause mild irritation. Boric Acid, when applied to the eyes of albino rabbits (Draize test), produced effects of mild erythema, and mild to moderate discharge in 5 of 6 rabbits. All signs subsided by the fourth day after application.
Skin:	LD ₅₀ (dermal, rabbit) > 2000 mg/kg. Can cause mild irritation. Boric Acid was applied to the skin of albino rabbits; slight to no irritation persisted 72 hours after application. No evidence of tissue damage was found.
Oral:	LD ₅₀ (oral, rat) 2660 mg/kg.
Inhalation:	ACGIH establish that exposures above safe levels stated in section 8 may produce upper respiratory irritation. Occupational exposure to safe levels not expected to produce any adverse effects.
Chronic:	<ul style="list-style-type: none"> - A report issued by the National Toxicology Program showed "no evidence of carcinogenicity" from a full two-year bioassay on Boric Acid on mice at feed doses of 2,500 to 5,000 ppm in the diet. No mutagenic activity was observed for Boric Acid in a recent battery of four short-term mutagenicity assays. - Classification = Reproductive toxin Category 1B based on EU CLP classification. Dietary levels of Boric Acid of 6,700 ppm in chronic feeding studies in rats and dogs produced testicular changes {Weir, Fisher, 1972}. In chronic feeding studies of mice on diets containing 5,000 ppm Boric Acid, testicular atrophy was present, while mice fed 2,500 ppm Sodium Tetraborate Pentahydrate showed no significant increase in testicular atrophy. In another chronic Boric Acid study, degeneration of seminiferous tubules was present together with a reduction of germ cells in mice fed 4,500 ppm Sodium Tetraborate Pentahydrate. - Boric Acid at dietary levels of 1,000 ppm administered to pregnant female rats throughout gestation caused a slight reduction in fetal weight, but was considered close to the no observable effect level. Doses of 2,000 ppm and above caused fetal malformations and maternal toxicity. In mice, the no effect level for fetal weight reduction and maternal toxicity was 1,000 ppm Boric Acid. Fetal weight loss was noted at dietary levels of 2,000 ppm and above. Malformations (agenesis or shortening of the thirteenth rib) were seen at 4,000 ppm [Heindal et al., 1992]. The doses administered were many times in excess of those to which humans would normally be exposed.

12. Ecological Information

Acute ecotoxicity:	<p>Boron naturally occurs in seawater at an average concentration of 5 mg B/liter. In laboratory studies the acute toxicity (96-hr LC₅₀+) for under-yearling Coho salmon (<i>Onchorhynchus kisutch</i>) in seawater was determined as 40 mg B/L (added as Sodium Metaborate). The Minimum Lethal Dose for minnows exposed to Boric Acid at 200 °C for 6 hours is 18,000 to 19,000 mg/L in distilled water, 19,000 to 19,500 in hard water.</p> <p>Rainbow trout (<i>S. gairdneri</i>)</p> <p style="padding-left: 40px;">24-day LC₅₀ = 150.0 mg/B/L</p> <p style="padding-left: 40px;">36-day NOEC-LOEC++ = 0.75-1 mg/B/L</p> <p>Goldfish (<i>Carassius auratus</i>)</p> <p style="padding-left: 40px;">7-day NOEC-LOEC = 26.50 mg/B/L</p> <p style="padding-left: 40px;">3-day LC₅₀ = 178 mg/B/L</p> <p>Daphnids</p> <p style="padding-left: 40px;">48-hour LC₅₀ = 133 mg/B/L</p> <p style="padding-left: 40px;">21-day NOEC-LOEC = 6-13 mg/B/L</p>
Chronic ecotoxicity:	Not determined
Other Information	Not considered to bioaccumulate or to be persistent in the environment.

13. Disposal Considerations

RCRA Status	Not a hazardous waste if discarded
Disposal Method:	Conform to Federal, State and Local regulations. Small amounts may be disposed of in municipal landfills. Larger quantities (tonnage amounts) need to be sent to approved facilities.

14. Transportation Considerations

DOT Proper Shipping Name:	Not regulated for transport
DOT Primary Hazard Class	Not applicable
DOT UN / NA Number:	Not applicable
DOT Packing Group	Not applicable
TDG (Canada)	Not regulated
IMDG (International water)	Not regulated
ICAO (Air transport)	Not regulated

15. Regulatory Information

UNITED STATES:

Toxic Substances Control Act (TSCA)

TSCA Inventory Status:	Listed on TSCA Chemical Inventory
Other TSCA Issues:	None

SARA Title III/CERCLA

Ingredients with "Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs).

Ingredient	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
No ingredients listed in this section	---	---

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SARA 311 Hazard Class:	Immediate, Delayed
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SARA 313 Toxic Chemicals:

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percent are found in Section 2.

Ingredient	Comment
No ingredients listed in this section	---

State Right-To-Know

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

Ingredient	Weight %	Comment
No ingredients listed in this section	---	Not listed on California Proposition 65.

Additional Regulatory Information:	Not listed in Clean Water Act or in Safe Drinking Water Act,
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CONEG Model Legislation	Meets all CONEG requirements relating to heavy metal limitations on components of packaging materials.
FEDERAL DRUG AGENCY (FDA)	Pursuant to 21 CFR 175.105, 176.180, and 181.30, Boric Acid is approved by the FDA for use in adhesive components of packaging materials, as a component of paper coatings on such materials, or for use in the manufacture thereof, which materials are expected to come in contact with dry food products.

CANADA:

WHMIS Classification:	D2A, Classified in conformance with the Controlled Products Regulations and contains all data required by that regulation.
WHMIS Ingredient Disclosure List	Boric Acid is listed.
DSL Status (Domestic substances list)	Listed on DSL

Ingredients for this product also found on the chemical inventories of Australia, China, Korea, European Union, Japan and the Philippines.

16. Other Information

- This material is not intended for use in pesticide manufacture.
- Keep out of the reach of children.

Issue Date:	March 11, 2015
Previous Issue Date:	January 20, 2015; May 1, 2014
Changes from previous version:	Revision of format to meet HCS 2012.

National Fire Protection Assoc. (NFPA) Classification:

4 = Severe; 3 = Serious; 2 = Moderate; 1 = Slight, 0 = Minimal

Health	1
Flammability	0
Reactivity	0

Hazardous Materials Information Systems (HMIS):

4 = Extreme; 3 = High; 2 = Moderate; 1 = Slight; 0 = Insignificant

Health	1*
Flammability	0
Physical Hazard	0

The information appearing herein is based upon data obtained from the generator and/or recognized technical sources. While the information is believed to be accurate, Searles Valley Minerals Inc. (SVM) makes no representations as to its accuracy or sufficiency. Conditions of use are beyond SVM's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the material is suitable for their particular purposes and they assume all risk of their use, or reliance upon, information contained herein. This information relates only to the material designated herein and does not relate to its use in combination with any other material or in any other process.