ALLIANCE CHEMICAL

Safety Data Sheet

Boric Acid, Technical Grade

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Boric Acid, Technical

Synonyms/Generic Names: Boron Trihydroxide; Orthoboric Acid; Boracic Acid

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: ALLIANCE CHEMICAL
204 S. Edmond St.
Taylor, Texas 76574

For More Information: 512-365-6838
www.alliancechemical.com

In Case of Emergency Call: CHEMTEL (800) 255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Target organ effect, Teratogen, Reproductive hazard

Target Organs: Kidneys, circulatory and central nervous system

Signal Words: Warning

Pictograms:

GHS Classification:

Acute toxicity, Oral	Category 5
Reproductive toxicity	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H303	May be harmful if swallowed
H360	May damage fertility or the unborn child.

Precautionary Statements:

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/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.

P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	1
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	2
Fire	0
Reactivity	0
Personal	Not Available

.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Boric Acid	>99	10043-35-3	233-139-2	H_3BO_3	61.83 g/mole

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	A mixture of potassium and boric acid may explode upon impact. A mixture of boric acid and acetic anhydride will explode when heated to 58-60°C. Emits toxic fumes (borane, boron oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Do not disperse dust into the air during cleanup. Any release to the environment may require reporting to federal/national or local agencies.
Methods and materials for	Ventilate the release area. Do not disperse dust into the air during

containment and cleaning up	cleanup. Pick up and arrange disposal without creating dust. Sweep up and place in a closed container. Dispose of all waste or cleanup materials in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Controls:

Component	Exposure Limits	Basis	Entity
Boric Acid	2 mg/m^3	TLV	ACGIH
	6 mg/m^3	STEL	ACGIH

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White crystalline powder. Solid.
Odor	No odor
Odor threshold	Not Available
pH	5.2 (1% aq. Soln.)
Melting point/freezing point	169 °C (336 °F)
Initial boiling point and boiling range	300 °C (572 °F) @ 760 mmHg
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable

Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Soluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Flammable
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture; excessive heat; dusting conditions.
Incompatible Materials	Potassium, acetic anhydride, alkalis.
Hazardous Decomposition Products	Borane, boron oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral – rat – 2660 mg/kg LD50 Oral – mouse – 3450 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Redness, itching
Eyes	Redness, itching, tearing, conjunctivitis
Respiratory	Irritation of mucous membranes, coughing, wheezing, shortness of breath
Ingestion	Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain

Chronic Toxicity	Not Available
Teratogenicity	Teratogenic. Presumed human reproductive toxicant.
Mutagenicity	Mutagenic effects have occurred in microorganisms.
Embryotoxicity	May cause harm; developmental effects have occurred in experimental animals.
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance.
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Fish: LC50 (Ptychocheilus lucius) - 279 mg/l (96 hr) Fish: LC50 Lepomis macrochirus – 1021 mg/l (96 hr)
Aquatic Invertebrate	LC50 Daphnia magna – 53.2 mg/l (21 days) EC50 Daphnia magna – 133 mg/l (48 hr)
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORT INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Chronic Health Hazard
SARA 312	Chronic Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class D-2A: Poisonous and infectious material- Other effects- Very toxic

16. OTHER INFORMATION