SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Boric acid
CAS number	10043-35-3
Synonyms	No information available

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory Chemicals

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Serious eye damage/eye irritation	Category 2B
Toxic to reproduction	Category 1B
Specific target organ toxicity - single exposure	Category 3

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	May damage fertility. May damage the unborn child.
Precautionary statements:	
Prevention:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/ protection clothing/ eye protection/ face protection. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Avoid breathing dust.
Response:	IF exposed or concerned: Get medical advice/attention. 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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Boric acid	-	10043-35-3	99.8%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice	Get medical advice/attention if you unwell. Show this safety data sheet to the doctor in attendance.
If inhaled	Move to fresh air. Get medical attention if symptoms persist.

In case of skin contact	Wash skin thoroughly with soap and water. Wash contaminated clothing before reuse. Get medical attention if irritation persists after washing.
In case of eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.
If swallowed	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed
Irritating to eyes, respiratory system and skin.

4.3 Indication of any immediate medical attention and special treatment needed
Symptoms may be delayed. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing medi	None known.

5.2 Specific hazards arising from the substance or mixture
During fire, gases hazardous to health may be formed.

5.3 Special protective equipment and precautions for firefighters
Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

5.4 Further information

Flash Point	No information available
Autoignition Temperature	No information available

Explosion limits

Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep unauthorized personnel away. Keep unwind. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust.

6.2 Environmental precautions

Do not contaminated water sources or sewer. Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. Avoid inhalation of dust.

Hygiene measures

Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routines wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

Incompatibilities

No information available

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

No information available

US. ACGIH Threshold Limit Values

Component	Type	Value

Boric acid	TWA	2 mg/m3
Boric acid	STEL	6 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards
No information available

Biological occupational exposure limits
No information available

8.2 Exposure controls

Appropriate engineering controls
No data available.

Personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Chemical resistant gloves. Wear suitable protective clothing.

Respiratory protection
Good general ventilation (typicaly 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborned levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. In cause of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.

Control of environmental exposure
No information available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid, granules or powder
Appearance	White
Odor	Odorless
Odor Threshold	No data available
pH	5.1 0.1 molar solution
Melting Point/Range	170.9 °C
Boiling Point/Range	300 °C
Evaporation Rate	No data available

Flammability (solid)	No data available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Density	1.43 (20 °C)
Solubility	Slightly soluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No data available
Decomposition Temp	No data available
Viscosity	No data available
Molecular Formula	BH3O3
Molecular Weight	61.84 g/mol
VOC Content(%)	No data available
Oxidizing properties	No data available

9.2 Other safety information No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No dangerous reaction known under conditions of normal use.

10.2 Chemical stability
Material is stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4 Conditions to avoid
Water, moisture.

10.5 Incompatible materials
Strong oxidizing agents, alkalies, potassium

10.6 Hazardous decomposition products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boric acid	2660 mg/kg (rat)	2000 mg/kg (rabbit)	0.002 mg/l 4 h (rat)

Skin corrosion/irritation
Causes mild skin irritation

Serious eye damage/eye irritation
Causes eye irritation.

Respiratory or skin sensitization
Dust may irritate respiratory system, not a skin sensitizer

Germ cell mutagenicity
No mutagenic components identified

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Boric acid	10043-35-3	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure
Respiratory tract irritation. May cause drowsiness or dizziness

Specific target organ toxicity - repeated exposure
None known

Reproductive toxicity
May damage fertility or the unborn child

Chronic effects
No information available

11.2 Additional Information
No information available

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Boric acid	LC50	Colorado squawfish (Ptychocheilus lucius)	216-360 mg/l 96 h
	EC50	Water flea (Daphnia magna)	264300-496700 mg/l
	LC50	Opossium shrimp (americamysis bahia)	52.8-148 mg/l
	LC50	Waterweed (Elodea canadensis)	5 mg/l

12.2 Persistence and degradability
The product is not readily biodegradable.

12.3 Bio accumulative potential
No data available on bioaccumulation.

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
No information available

12.6 Endocrine disrupting properties
No information available

12.7 Other adverse effects
The prodcut components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)
Not regulated

IMDG
Not regulated

IATA
Not regulated

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not listed

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed

SARA 304 Emergency release notification

Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Acute Hazard (Immediate)

Chronic Hazard (Delayed)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Listed, 500 lbs

SARA 313 (TRI reporting)

Not listed

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not listed

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not listed

Safe Drinking Water Act

Not listed

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.