



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 29-Jan-2018

Version 1.2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Boric Acid
Product Code SC-202083

Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification

Acute toxicity - Dermal Category 4
Acute toxicity - Inhalation (Vapors) Category 1
Acute toxicity - Inhalation (Dusts/Mists) Category 2
Carcinogenicity Category 1B
Reproductive toxicity Category 1B

Label elements

Signal word Danger
Hazard statements Harmful in contact with skin
Fatal if inhaled
May cause cancer
May damage fertility or the unborn child

Symbols/Pictograms



Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician



Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

NFPA	Health hazards	1		HMIS	Health hazards	1
	Flammability	0			Flammability	0
	Stability	0			Physical hazards	0
	Physical and chemical properties	-			Personal protection	-

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 10043-35-3
 Molecular Weight 61.83
 Formula BH_3O_3

Chemical Name	CAS No	Weight %	Oral LD50	Dermal LD50	Inhalation LC50
Boric Acid	10043-35-3	>98	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h

4. FIRST AID MEASURES**First Aid Measures**

General advice	Immediate medical attention is required. If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately. If symptoms persist, call a physician.
Skin Contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Inhalation	Immediate medical attention is required Remove to fresh air If not breathing, give artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Artificial respiration and/or oxygen may be necessary Call a physician Move to fresh air in case of accidental inhalation of vapors If symptoms persist, call a physician
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water and drink afterwards plenty of water. Call a physician.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**



Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	None.

Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	No information available.

Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
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Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. Should not be released into the environment.
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Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Protect from moisture. Store at room temperature.
Incompatible materials	None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION



Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric Acid 10043-35-3	STEL: 6 mg/m ³ inhalable fraction TWA: 2 mg/m ³ inhalable fraction	-	-

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.
Skin and Body Protection Wear protective gloves and protective clothing.
Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid
Appearance crystalline
Odor No information available

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	185 °C
Boiling point	300 °C
Flash point	No information available
Density	1.44 g/cm ³
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	2.6 mmHg
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	-0.76
Autoignition temperature	No information available
Decomposition temperature	185 °C
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

10. STABILITY AND REACTIVITY

Reactivity Not applicable
Chemical stability Stable under recommended storage conditions.
Possibility of Hazardous Reactions None under normal processing.
Hazardous polymerization No information available.



Conditions to avoid Exposure to air or moisture over prolonged periods.
 Incompatible materials Strong oxidizing agents.
 Hazardous Decomposition Products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation No data available.
 Eye contact No data available.
 Skin Contact No data available.
 Ingestion No data available.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Avoid repeated exposure.
 Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Boric Acid 10043-35-3	-	Group 2A	-	X

IARC (International Agency for Research on Cancer) Group 2A - Probably Carcinogenic to Humans
 OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present

Numerical measures of toxicity - Product Information

Unknown acute toxicity No information available
 The following values are calculated based on chapter 3.1 of the GHS document
 ATEmix (oral) 2660 mg/kg
 ATEmix (dermal) 2000 mg/kg
 ATEmix (inhalation-dust/mist) 0.2 mg/l
 ATEmix (inhalation-vapor) 0.2 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity May cause long lasting harmful effects to aquatic life

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Boric Acid 10043-35-3	-	1020: 72 h Carassius auratus mg/L LC50 flow-through	-	115 - 153: 48 h Daphnia magna mg/L EC50

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability No information available.
 Bioaccumulation No information available.
 Mobility No information available.

Chemical Name	Partition coefficient
Boric Acid 10043-35-3	-0.757

13. DISPOSAL CONSIDERATIONS



Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations. Should not be released into the environment.
Contaminated packaging	Do not reuse container.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.
California Hazardous Waste Status	This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Boric Acid 10043-35-3	Toxic

14. TRANSPORT INFORMATION

DOT	Not regulated
IMDG	Not regulated
IATA	Not regulated

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): China (IECSC)
ENCS (Japan): Philippines (PICCS)

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Boric Acid	X	X	-	X	-	X	X	X	X	X

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations



California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Boric Acid 10043-35-3	X	Not Listed	Not Listed

16. OTHER INFORMATION

Revision note

No information available

Disclaimer

The information provided in this Material 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet