ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: March 7, 2025

Section 1: Product & Company Information

Product Identifier: **Boric Acid, Granular**

Other Means of Identification

Product Number: 110000

Recommended Use and Restrictions on Use

Recommended Use: Ceramics, Cosmetics, Detergent, Borosilicate glass, Textile, fiberglass.
Restrictions on Use: No data available.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corecheminc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 *(monitored 24 hours/day)*

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Not classified.

Health Hazard(s)

Toxic to Reproduction - 2

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)

Hazard Statement(s)

H361: Suspected of damaging fertility or the unborn child.

Precautionary Statements

General

Not applicable.

Prevention

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.

Response

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

Storage

P405: Store locked up.

Disposal

P501: 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.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Boric Acid	-	10043-35-3	98 - 100%	No
Water	-	7732-18-5	0 - 2%	No data available

1. Information regarding the composition and the percentage ranges of the mixtures ingredients are not presented as its Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "— "Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

If symptoms such as nose or throat irritation are observed, remove person to fresh air. If not breathing, give artificial respiration. Seek medical attention.

Skin Contact

Wash with soap and water. Seek medical attention.

Eye Contact

As with any chemical exposure to the eye, flush your eyes with water for at least 20 minutes. Seek medical attention.

Ingestion

If large amounts are swallowed (i.e., more than one teaspoon), give two glasses of water or milk to drink and seek medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Symptoms

Symptoms of accidental over-exposure to boric acid have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Treat symptomatically. Symptoms may be delayed.

Section 5: Fire-Fighting Measures

General Fire Hazards

No unusual fire or explosion hazards noted.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable Extinguishing Media

No data available.

Specific Hazards Arising from the Chemical

None, boric acid is non-flammable, combustible or explosive. The product is itself a flame retardant.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid dust formation. Avoid breathing dust. In case of exposure to prolonged or high level of airborne dust, wear a personal respirator in compliance with national legislation.

Methods and Materials for Containment and Clean-Up

Land spill- Vacuum, shovel or sweep up boric acid and place in containers for disposal in accordance with applicable local, state, and federal laws and regulations. Avoid contamination of water bodies during clean up and disposal. Avoid breathing dust.

Spillage into water- Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

Boric acid is a water-soluble white powder that may, at high concentrations, cause damage to trees or vegetation by root absorption (see section 12). Do not flush to drains.

Section 7: Handling and Storage

Precautions for Safe Handling

To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in first out basis. Good housekeeping and dust prevention procedures should be followed to minimize dust generation and accumulation. Use with appropriate local exhaust ventilation. The product should be kept away from strong reducing agents. Apply above handling advice when mixing with other substances.

Conditions for Safe Storage, including any Incompatibilities

Keep containers closed and store indoors in a dry well-ventilated location. Provide appropriate ventilation and store bags such as to prevent any accidental damage. Keep airborne particles at a low level.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Disodium Tetraborate Decahydrate	TWA	2 mg/m3	US. ACGIH Threshold Limit Values
Disodium Tetraborate Decahydrate	STEL	6 mg/m3	US. ACGIH Threshold Limit Values
Disodium Tetraborate Decahydrate	PEL	15 mg/m3	US OSHA Table Z-1
Disodium Tetraborate Decahydrate	PEL	5 mg/m3 (Respirable)	US OSHA Table Z-1

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Maintain air concentrations below occupational exposure standards

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 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 airborne levels below recommended exposure

limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hygiene Measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:	
Physical State:	powder or crystalline solid
Color:	White
Odor:	Odorless
Odor Threshold:	No data available.
pH: @20°C	6.1 (0.1% solution) 5.1 (1.0% solution) 3.7 (4.7% solution)
Melting Point/Freezing Point:	171 ± 1°C (heated in closed space)
Initial Boiling Point and Boiling Range:	300 °C (full dehydration)
Flash Point:	Not applicable.
Evaporation Rate (butyl acetate=1)**:**	Not applicable
Flammability (solid, gas):	Non-flammable
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	Not applicable
Flammability Limit – Lower:	Not applicable
Explosive Limit – Upper:	Not applicable
Explosive Limit – Lower:	Not applicable
Vapor Pressure:	Negligible @ 20°C
Vapor Density (air =1)**:**	No data available.
Relative Density (water=1)**:**	1.43 gr/cm3@ 23°C
Solubility(ies):	
Solubility in water:	4.7% @ 20°C; 27.5% @100°C
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Log Kow (Pow): -1.09 @ 22°C
Auto-Ignition Temperature:	Not applicable
Decomposition Temperature:	No data available.
Viscosity:	No data available.

Other Information:

Molecular Weight:	61.84 g/mol
Formula:	H_3BO_3

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability

Boric acid is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. When heated it loses water, first forming metaboric acid (HBO2), and on further heating it is converted into boric oxide (B2O3)

Possibility of Hazardous Reactions

Reaction with strong reducing agents such as metal hydrides or alkali metals will generate flammable hydrogen gas which could create an explosive hazard

Conditions to Avoid

Exposure to moisture and incompatible materials.

Incompatible Materials

Boric acid reacts as a weak acid which may cause corrosion of base metals. Avoid contact with strong reducing agents such as metal hydrides or alkali metals.

Hazardous Decomposition Products

Boranes, hydrogen, boron oxides, boric anhydride.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: May be harmful if swallowed. May cause nausea and vomiting.
Inhalation: Dust may irritate respiratory system.
Skin Contact: Causes mild skin irritation.
Eye Contact: Causes eye irritation.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Low acute oral toxicity: LD50 in rats is 3,500 to 4,100 mg/kg of body weight.

Dermal

Low acute dermal toxicity: LD50 in rabbits is greater than 2,000 mg/kg of body weight

Inhalation

No data available

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Boric acid is poorly absorbed through intact skin. May be irritating.

Serious Eye Damage/Eye Irritation

May be irritating.

Respiratory/Skin Sensitization

Boric acid may be a skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

Animal feeding studies in rats, mice and dogs, at high doses, have demonstrated effects on fertility and testes. Studies in rats, mice and rabbits, at high doses, demonstrate developmental effects on the fetus including fetal weight loss and minor skeletal variations. The doses administered were many times in excess of those which humans would normally be exposed to (3, 4, 5). Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

Specific Target Organ Toxicity – Single Exposure

Respiratory tract irritation. May cause drowsiness or dizziness.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Low acute inhalation toxicity: LC50 in rats is greater than 2.0 mg/l (or g/m3).

Other Effects

None known.

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Fish, Fathered minnow, Pimephales promelas (Soucek et al., 2010) 96-hr LC50 = 79.7 mg B/L or 456 mg boric acid/L or 370 mg disodium tetraborate, anhydrous

Aquatic Invertebrates

Daphnia, Daphnids, Daphnia magna (Gersich, 1984a) 48-hr LC50 = 133 mg B/L or 760 mg boric acid/L or 619 mg disodium tetraborate, anhydrous/L

Toxicity to Aquatic Plants

Green algae, Pseudokirchneriella subcapitata (Hansveit and Oldersma, 2000) 72-hr EC50 –biomass = 40 mg B/L, or 229 mg boric acid/L.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available

Persistence and Degradability

Biodegradation

The product is not readily biodegradable.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Not significantly bio-accumulative

Partition Coefficient n-octanol / water (log Kow)

No data available.

Mobility in Soil

The product is soluble in water and is leachable through normal soil.

Other Adverse Effects

The product 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

Disposal Instructions

Do not contaminate water, food, or feed by storage or disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Non-refillable bag! Completely empty bag into application equipment. Offer for recycling, if available; otherwise dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burning stay out of smoke.

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

US Department of Transportation (DOT)

This material is not regulated as a hazardous material for transport by the U.S. Department of Transportation in accordance with 49 CFR 172.101.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.
None.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

No chemical(s) in this material are subject to the reporting requirements of CERCLA.

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard:	No
Sudden Release of Pressure:	No
Reactive:	No
Acute (Immediate) Health Hazard:	Yes
Chronic (Delayed) Health Hazard:	Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard:	**2**
Chronic Health Hazard:	*****
Flammability:	**0**
Physical Hazard:	**0**

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard:	**2**
Fire Hazard:	**0**
Reactivity Hazard:	**0**
Special:	**N/A**

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By:	Regulatory Manager
Version #:	001
Issue Date:	September 22, 2015
Last Revised By:	Regulatory Assistant C
Last Revision Date:	5/15/2023
Current Revision:	02

Sections Revised: Changes were made to sections 9-10

Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
EC50 - Effective concentration, 50%
IDHL – Immediately Dangerous to Life and Health
Kg – Kilogram
l – Liter
lb – Pound
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%
mg - milligram
ml – milliliter
N/A – Not Applicable
N/D – Not Determined
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TWA - Time weighted average
ACGIH - American Conference of Industrial Hygienists
AIHA – American Industrial Hygiene Association
BEI - Biological Exposure Indices
CAS – Chemical Abstracts Service
DOT – US Department of Transportation
EPA – US Environmental Protection Agency
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC - Intermediate Bulk Container
IMDG - International Maritime Dangerous Goods
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Health and Safety Administration
SARA – US EPA Superfund Amendments and Reauthorization Act
TSCA – US EPA Toxic Substances Control Act
UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

The information in this SDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.