

**Section 1: Product & Company Information**

**Product Identifier:** Borax, 10 mol

**Other Means of Identification**

Product Number: 131002

**Recommended Use and Restrictions on Use**

Recommended Use: Ceramics, Detergent, Borosilicate glass, Insulation 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)**

(Corrosion) Damage/Irritation, Eye - 2A

Toxic to Reproduction - 1

**Environmental Hazard(s)**

Not classified.

**Label Elements**

**Signal Word**

**DANGER**

**Hazard Symbol(s)**



**Hazard Statement(s)**

H319: Causes serious eye Irritation.

H360: May damage 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.

P264: Wash face, hands and any exposed skin thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P281: Use personal protective equipment as required.

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## Response

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P337+P313: If eye irritation persists: 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 (HNOG)

None known.

## Section 3: Composition/Information on Ingredients

### Substance

| Chemical Identity <sup>2</sup>   | Common Name/Synonym(s)                                                | CAS # <sup>3</sup> | Weight % | Impurity or Stabilizing Additive |
|----------------------------------|-----------------------------------------------------------------------|--------------------|----------|----------------------------------|
| Disodium Tetraborate Decahydrate | Borax, Boraxdecahydrate, Sodium Boratedecahydrate, Sodium Tetraborate | 1303-96-4          | ≤ 100 %  | No                               |

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

Move out of dangerous area. Seek medical attention. Show this safety data sheet to the doctor in attendance.

### Inhalation

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

### Skin Contact

Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

### 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

No data available.

### Indication of immediate medical attention and special treatment needed

#### Hazards

No data available.

#### Treatment

Observation only is required for adult ingestion of less than 7 grams of borax decahydrate. For ingestion in excess of 7 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Boron analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment.

## Section 5: Fire-Fighting Measures

### General Fire Hazards

No data available.

## Suitable (and Unsuitable) Extinguishing Media

### Suitable Extinguishing Media

Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog

### Unsuitable Extinguishing Media

No data available.

## Specific Hazards Arising from the Chemical

Borane/boron oxides. Sodium oxides. Not combustible.

## Special Protective Equipment and Precautions for Firefighters

### Special Fire-Fighting Equipment Procedures

No data available.

### 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. 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

Vacuum, shovel or sweep up borax and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. No personal protective equipment is needed to clean up land spills.

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

Borax decahydrate is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption.

## 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. Your supplier can advise you on safe handling, please contact the supplier. 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.

## Section 8: Exposure Controls/Personal Protection

### Control Parameters

#### Occupational Exposure Limits

| Chemical Identity                | Type | Value                | Source                           |
|----------------------------------|------|----------------------|----------------------------------|
| Disodium Tetraborate Decahydrate | TWA  | 2 mg/m <sup>3</sup>  | US. ACGIH Threshold Limit Values |
| Disodium Tetraborate Decahydrate | PEL  | 10 mg/m <sup>3</sup> | US OSHA Table Z-1                |
| Disodium Tetraborate Decahydrate | PEL  | 15 mg/m <sup>3</sup> | US OSHA Table Z-1                |
| Disodium Tetraborate Decahydrate | PEL  | 5 mg/m <sup>3</sup>  | US OSHA Table Z-1                |

#### Biological Limit Values

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

### 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: Solid, powder or crystalline  
Color: White

### Odor:

Odorless

### Odor Threshold:

No data available.

### pH:

9.0 – 9.5 at 38.1 g/l at 25 °C

### Melting Point/Freezing Point:

75°C (heated in closed space)

### Initial Boiling Point and Boiling Range:

1575°C

### Flash Point:

not applicable

### Evaporation Rate (butyl acetate=1):

not applicable

### Flammability (solid, gas):

Nonflammable

### Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: Non Flammable  
Flammability Limit – Lower: Non Flammable  
Explosive Limit – Upper: Non Explosive  
Explosive Limit – Lower: Non Explosive

### Vapor Pressure:

.213 hPA at 20 °C

### Vapor Density (air = 1):

not applicable

### Relative Density (water=1):

1.73 g/cm<sup>3</sup> @ 20°C

### Solubility(ies):

Solubility in water: 4.7 % @ 20°C; 65.6% @ 100°C  
Solubility (other): No data available.

### Partition coefficient (n-octanol/water):

Log Kow (Pow): 1.53 +/- 0.05 (@ 22 + / - 1°C) pH 7.5

### Auto-Ignition Temperature:

not applicable

### Decomposition Temperature:

dehydration begins at 60°C, complete at 320°C

### Viscosity:

not applicable

### Other Information:

Molecular Weight: 381.37 g/mol  
Formula: B<sub>4</sub>Na<sub>2</sub>O<sub>7</sub> · 10H<sub>2</sub>O

## Section 10: Stability and Reactivity

### Reactivity

No data available.

### Chemical Stability

Borax decahydrate is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. When heated it losses water, eventually forming anhydrous borax (Na<sub>2</sub> B<sub>4</sub> O<sub>7</sub>)

### Possibility of Hazardous Reactions

Reaction with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals will generate flammable hydrogen gas which could create an explosive hazard. Violent reactions possible with: Strong oxidizing agents, Acids, and metallic salts.

### Conditions to Avoid

No data available.

**Incompatible Materials**

Avoid contact with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals.

**Hazardous Decomposition Products**

Boranes, hydrogen, boron oxides.

**Section 11: Toxicological Information**

**Information on routes of exposure**

**Ingestion:** No data available.

**Inhalation:** No data available.

**Skin Contact:** No data available.

**Eye Contact:** No data available.

**Information on Toxicological Effects**

**Acute Toxicity (List all possible routes of exposure)**

**Oral**

Low acute oral toxicity: LD50 in rats is 2,500 mg/kg of body weight.

**Dermal**

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

**Inhalation**

LC50 Inhalation - Rat - male and female - 4 h - > 2.12 mg/l - dust/mist

**Repeated Dose Toxicity**

No data available.

**Skin Corrosion/Irritation**

Borax decahydrate is poorly absorbed through intact skin. Non-irritant.

**Serious Eye Damage/Eye Irritation**

Borax decahydrate is a serious eye irritant.

**Respiratory/Skin Sensitization**

Borax is not 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 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 data available.

**In Vivo**

No data available.

**Reproductive Toxicity**

Animal feeding studies in rats, mice and dogs, at high doses, have demonstrated effects on fertility and testes (2). Studies with chemically related boric acid in rat, mouse and rabbit, 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**

No data available.

**Specific Target Organ Toxicity – Repeated Exposure**

No data available.

**Aspiration Hazard**

Low acute inhalation toxicity: LC50 in rats is greater than 2.0 mg/l.

**Other Effects**

No data available.

**Section 12: Ecological Information**

**Ecotoxicity**

**Acute Hazards to the Aquatic Environment**

**Fish**

Fish, Fathred 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**

There are no data on the degradability of this product.

**BOD/COD Ratio**

No data available.

**Bioaccumulative Potential**

**Bioconcentration Factor (BCF)**

Not significantly bioaccumulative.

**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**

Herbicide. Discharge into environment must be avoided.

**Section 13: Disposal Considerations**

**Disposal Instructions**

Dispose of it in accordance with all local, state, and federal regulations. Contact a licensed waste disposal service to dispose of this material. Surplus product should, if possible, be used for an appropriate application.

**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.

**Section 14: Transportation Information**

**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.

**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.*

**Section 16: Other Information**

**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

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Current Revision: 03

Sections Revised: Minimal changes.

**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

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

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STEL – Short-term Exposure Limit  
TWA - Time weighted average

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.