

**SECTION 1. Identification****1.1 Product identifier****Crafter's Choice™ Sodium Borate****Chemical Synonyms:** Sodium tetraborate decahydrate, disodium tetraborate, borax**CAS #:** 1303-96-4**1.2 Relevant identified uses of the substance and uses advised against**

Product is used in industrial manufacturing, in particular in: ceramics, borosilicate glass, detergent, insulation fiberglass

**1.3 Details of the manufacturer/supplier of the safety data sheet**Crafter's Choice Brands, LLC  
7820 E. Pleasant Valley Road  
Independence, Ohio 44131  
Phone: 1-800-908-7028  
[www.Crafters-Choice.com](http://www.Crafters-Choice.com)**1.4 Emergency Telephone Number ChemTel (MIS3548100)****(800) 255-3924** Domestic USA, Canada, Puerto Rico, and US Virgin Islands  
**+ (813) 248-0585** International**SECTION 2. Hazard Identification****2.1 Classification of the substance**

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

Reproductive toxicity (Category 2) H361 - Suspected of damaging fertility or the unborn child

Eye irritant (Category 2) H319 - Causes serious eye irritation.

Acute Oral (Category 5) H303 - May be harmful if swallowed.

**2.2 GHS Label elements, including precautionary statements****Pictogram****Signal word:****Warning**

### **Hazard statements**

- H361 Suspected of damaging fertility or the unborn child  
H319 Causes serious eye irritation.  
H303 May be harmful if swallowed.

### **Precautionary statements**

- P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash thoroughly after handling  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P281 Use personal protective equipment as required.  
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.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### **2.1.3. Additional information**

For Full text of R-S phrases as well as Hazard Class/Statements and Precautionary Statements see section 16.

### **2.2. Other hazards**

#### **Emergency overview**

Borax decahydrate is a white odorless, powdered substance that is not flammable, combustible, or explosive, and has low acute oral and dermal toxicity.

#### **Potential health effects**

Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because borax decahydrate is poorly absorbed through intact skin.

#### **Inhalation**

Occasional mild irritation effects to nose and throat may occur from inhalation of borax decahydrate dusts at levels higher than 10 mg/m<sup>3</sup>

#### **Eye contact**

Borax decahydrate is a serious eye irritant.

#### **Skin contact**

Borax decahydrate does not cause irritation to intact skin.

#### **Ingestion**

Products containing borax decahydrate are not intended for ingestion. Borax decahydrate has low acute toxicity. Small amounts (e.g. a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

#### **Reproductive / Developmental**

Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction. . A recent epidemiological study and a peer reviewing report of the past epidemiological studies conducted in China didn't show any negative effect of boron on human fertility (10, 11).

#### **Potential ecological effects**

Large amounts of borax decahydrate can be harmful to plants and other species. Therefore releases to the environment should be minimized.

#### **Signs and symptoms of exposure**

Symptoms of accidental over-exposure to borax decahydrate 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 (see section 11).

## SECTION 3. Composition / Information on Ingredients

### 3.1. Substances:

The product contains greater than 99.9 percent (%) borax decahydrate  $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$

| Chemical Name     | Purity | CAS       | ECN       | REACH Registration No. | Hazard Statements  |
|-------------------|--------|-----------|-----------|------------------------|--------------------|
| Borax decahydrate | 99.9%  | 1303-96-4 | 215-540-4 | 01-2119490790-32-0002  | H361 / H319 / H303 |

For other Chemical inventory listings, please refer to section 15.

## SECTION 4. First-aid Measures

### 4.1 Description of first aid measures

#### General advice

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

#### Skin contact

Wash with soap and water. Seek medical attention.

#### Eye contact

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

#### 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.

#### 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.

#### Note to physicians

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 [1] (see section 11).

### 4.2 Most important symptoms and effects, both acute and delayed

Described in labelling.

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

No data available.

## SECTION 5. Fire-Fighting Measures Identification

### 5.1 Suitable extinguishing media

Use fire extinguishing media suitable for surrounding fires.

### 5.2 Specific hazards arising from the chemical

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

### 5.3 Special protective actions for fire-fighters

Firefighters should wear pressure demand, self-contained breathing apparatus and full turn-out gear.

## SECTION 6. Accidental Release Measures

### 6.1 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.

### 6.2 Environmental precautions

Borax decahydrate is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption (see section 12).

### 6.3 Methods and materials for containment and cleaning up

#### Land spill

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 (see sections 12, 13 and 15).

### 6.4 Reference to other sections

See sections 8 and 13 for further information.

## SECTION 7. Handling and Storage

### 7.1 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.

### 7.2 Conditions for safe storage

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

### 8.1 Control parameters

Occupational exposure limits for dust (total and respirable) are treated by OSHA, Cal OSHA and ACGIH as "Particulate Not Otherwise Classified" or "Nuisance Dust"

Respect regulatory provisions for dust (total and respirable) .

|                            |                      |
|----------------------------|----------------------|
| ACGIH/TLV                  | 10 mg/m <sup>3</sup> |
| Cal OSHA/PEL               | 10 mg/m <sup>3</sup> |
| OSHA/PEL (total dust)      | 15 mg/m <sup>3</sup> |
| OSHA/PEL (respirable dust) | 5 mg/m <sup>3</sup>  |

## DNEL values

| Exposure pattern                    | Type/site of effect | Exposure route    | DNEL value             |
|-------------------------------------|---------------------|-------------------|------------------------|
| <b>DNELs for workers</b>            |                     |                   |                        |
| Acute                               | Local               | Inhalation        | 22.3 mg/m <sup>3</sup> |
| Long-term                           | Systemic            | Inhalation        | 12.8 mg/m <sup>3</sup> |
| Long-term                           | Systemic            | Dermal            | 42478 mg/day           |
| <b>DNELs for the general public</b> |                     |                   |                        |
| Acute                               | Systemic            | Oral              | 1.5 mg/kg bw/day       |
| Acute                               | Local               | Inhalation        | 22.3 mg/m <sup>3</sup> |
| Long-term                           | Systemic            | Dermal (external) | 303.5 mg/kg bw/day     |
| Long-term                           | Systemic            | Dermal (systemic) | 1.5 mg/kg bw/day       |
| Long-term                           | Systemic            | Inhalation        | 6.5 mg/m <sup>3</sup>  |
| Long-term                           | Systemic            | Oral              | 1.5 mg/kg bw/day       |
| Long-term                           | Local               | Inhalation        | 22.3 mg/m <sup>3</sup> |

Source: Chemical Safety Report of disodium tetraborate

## PNEC values

PNEC add, freshwater, marine water = 1.35 mg B/L

PNEC add aqua intermittent = 9.1 mg B/L

PNEC add freshwater sediment, marine water sediment = 1.8 mg B/kg sediment dry weight

PNEC soil = 5.4 mg B/kg soil dry weight

PNEC add,STP = 1.75 mg B/L

Source: Chemical Safety Report of Boric Acid

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Maintain air concentrations below occupational exposure standards.

Use local exhaust ventilation to keep airborne concentrations of borax decahydrate dust below permissible exposure levels.

Wash hands before breaks and at the end of the workday. Remove and wash soiled clothing.

### 8.2.2 Individual protection measures, such as personal protective equipment

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).

Eyes and hand protection

Handle with gloves. Wear eye protection suitable for job tasks.

### 8.2.3 Environmental exposure controls

No special requirement.

## SECTION 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

|                  |                                     |
|------------------|-------------------------------------|
| Physical state   | powder or crystalline solid         |
| Color            | white                               |
| Odor             | odorless                            |
| Odor threshold   | no data available                   |
| Molecular weight | 381.37                              |
| Specific gravity | 1.71-1.73 gr/cm <sup>3</sup> @ 20°C |

|  |   |
|--|---|
| pH @ 20°C                                    | 9.3 (0.1% solution)<br>9.2 (1% solution)<br>9.3 (4.7% solution) |
| Melting point                                | 741°C (heated in closed space)                                  |
| Initial boiling point and boiling range      | 1575°C  |
| Flash point                                  | not applicable  |
| Evaporation rate                             | not applicable  |
| Flammability (solid, gas)                    | not flammable   |
| Upper/lower flammability or explosive limits | not applicable  |
| Vapor pressure                               | negligible @ 20°C   |
| Vapor density                                | not applicable  |
| Relative density                             | 1.72 @ 20°C   |
| Solubility in water                          | 4.7 % @ 20°C; 65.6% @ 100°C                                     |
| 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  |
| Explosion hazard                             | not applicable  |
| Oxidizing properties                         | not applicable  |
| Bulk density:                                | 62.43 lbs./ft <sup>3</sup> (1.0 ton/m <sup>3</sup> )            |

## SECTION 10. Stability and Reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

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

### 10.3 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.

### 10.4 Conditions to avoid

Exposure to moisture and incompatible materials.

### 10.5 Incompatible materials

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

### 10.6 Hazardous decomposition products

Boranes, hydrogen, boron oxides.

## SECTION 11. Toxicological Information

### 11.1. Information on toxicological effect

#### Acute toxicity

Low acute oral toxicity; LD<sub>50</sub> in rats is 6,000 mg/kg of body weight.

#### Skin corrosion / irritation

Low acute dermal toxicity; LD<sub>50</sub> in rabbits is greater than 2,000 mg/kg of body weight. Borax decahydrate is poorly absorbed through intact skin. Non-irritant.

#### Serious eye damage/ irritation

Borax decahydrate is a serious eye irritant.

**Respiratory or skin sensitization:**

Borax is not a skin sensitizer.

**Germ cell mutagenicity I carcinogenicity**

IARC: 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.

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

**Reproductive toxicity**

Animal feeding studies in rat, mouse and dog, 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.

**STOT-single exposure** N.A.

**STOT-repeated exposure** N.A.

**Aspiration hazard**

Low acute inhalation toxicity; LC<sub>50</sub> in rats is greater than 2.0 mg/l (or g/m<sup>3</sup>).

**SECTION 12. Ecological Information**

Boron occurs naturally in sea water at an average concentration of 5 mg B/l and fresh water at 1 mg B/l or less. In dilute aqueous solutions the predominant boron species present is undissociated boric acid.

**12.1. Toxicity****Phytotoxicity**

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimize the amount of borate product released to the environment.

**Algal toxicity (6)**

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

**Invertebrate toxicity (7)**

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

**Fish toxicity (8)**

Fish, Fathead 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

**12.2 Persistence and degradability**

Boron is naturally occurring and ubiquitous in the environment. Borax is a naturally occurring borate.

**12.3 Bio-accumulative potential**

Not significantly bio-accumulative .

**12.4 Mobility in soil**

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

**12.5 Results of PBT and vPvB assessment** No data available

**12.6 Other adverse effects** No data available

## SECTION 13. Disposal Considerations

### 13.1. Disposal methods

Dispose of 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.

## SECTION 14. Transport Information

Borax decahydrate has no UN Number, and is not regulated under international rail, road, water or air transport regulations.

**US DOT** Not dangerous goods

**IMDG** Not dangerous goods

**IATA** Not dangerous goods

## SECTION 15. Regulatory Information

### 15.1. Safety, health and environmental regulations/substance specific legislation

It should be noted that borates are safe under conditions of normal handling and use, besides, they are essential nutrients to plants, and research shows that they play a beneficial role in human health.

#### Chemical inventory listing

U.S. EPA TSCA Inventory 1330-96-4

Canadian DSL 1330-96-4

ECN 215-540-4

South Korea 9212-848

Japanese MITI (1)-69

Ensure all national/local regulations are observed.

**SARA 302** No chemicals in this material are subject to the reporting requirements of SARA Title 111, Section 302.

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

**SARA 311/312 Hazards** Chronic Health Hazard

#### Massachusetts Right to Know Components

Disodium tetraborate decahydrate CAS-No 1303-96-4 Revision Date 2007-03-01

#### Pennsylvania Right to Know Components

Disodium tetraborate decahydrate CAS-No 1303-96-4 Revision Date 2007-03-01

#### New Jersey Right to Know Components

Disodium tetraborate decahydrate CAS-No 1303-96-4 Revision Date 2007-03-01

#### California Prop. 65 Components

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



### **Clean Air Act (Montreal Protocol)**

Borax decahydrate was not manufactured with and does not contain any Class I or Class II ozone depleting substances.

### **EU Reach Regulation**

Disodium tetraborates are listed in the Candidate List of Substances of Very High Concern "SVHC" for eventual inclusion in Annex XIV to REACH Regulation 1907/2006 ("Authorization List") (18.06.2010-ED/30/2010).

Disodium tetraborates are listed in the Annex XVII of REACH Regulation 1907/2006 (EU No.109/2012) and its use in consumer products above specific concentration limits is restricted. Note that this restriction is only specific to consumer products and do not cover its industrial and/or professional applications. Disodium Tetraborates can be used in consumer products below specific concentration limits (which is  $C \geq 8.5\%$  for Borax decahydrate).

## **SECTION 16. Other Information**

### **Full text of H-Statements referred to under sections 2 and 3.**

**H361** Suspected of damaging fertility or the unborn child

**H319** Causes serious eye irritation.

**H303** May be harmful if swallowed.

### **References**

Litovitz T L, Norman S A, Veltri J C, Annual Report of the American Association of Poison Control Centers Data Collection System. Am. J. Emerg. Med. (1986), 4, 427-458

Weir R J, Fisher R S, Toxicol. Appl. Pharmacol., (1972), 23, 351-364

National Toxicology Program (NTP) - Technical Report Series No. TR324, NIH Publication No. 88-2580 (1987), PB88 213475/XAB

Fail *et al.*, Fund. Appl. Toxicol. (1991) 17, 225-239

Heindel *et al.*, Fund. Appl. Toxicol. (1992) 18, 266-277

Hansveit and Oldersma, 2000; TNO Nutrition and Food Research Institute. Report No. V99.157.

Gersich, FM (1984a). Environ.Toxicol.Chem., 3 #1, 89-94 (1984)

Soucek *et al.*, 2010. Illinois Natural History Survey, University of Illinois.

9. Birge W J, Black J A, EPA-560/-76-008 (April 1977) PB 267 085

Scialli AR, Bonde JP, Bruske-Hohlfeld I, Culver D, Li Y, Sullivan FM; ELSEVIER 2009

Robbins WA, Xun L, Jia J, Kennedy N, Elashoff DA, Ping L. ;ELSEVIER 2009;(Reproductive Toxicology)

For general information on the toxicology of borates see ECETOC Technical Report No. 63 (1995); Patty's Industrial Hygiene and Toxicology, 4th Edition Vol. II, (1994) Chap. 42, Boron.

### **Disclaimer of Liability**

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