Boric Acid

MSDS Number: rm-boric

Revision Date: 12/8/2014

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Boric Acid
Revision Date:	12/8/2014
Version:	1.1
MSDS Number:	rm-boric
Common Name:	Boric Acid
CAS Number:	10043-35-3
EPA Number:	40 CFR 261
RCRA Number:	40 CFR 261
Chemical Family:	Inorganic Borates
Chemical Formula:	H3BO3
Synonyms:	ortho-Boric acid: boracic acid,
Product Use:	Industrial manufacturing

Supplier:

Rose Mill Company
100 Brook Street
West Hartford, CT 06110

860-232-9990 (Phone)
860-232-9995 (Fax)

www.RoseMill.com
info@RoseMill.com

2 HAZARDS IDENTIFICATION

Route of Entry:	Eyes; Mild eye irritant. Inhalation: Occasional mild irritation effects to nose and throat may occur from inhalation of dust levels greater than 10m/m3.
Target Organs:	No target organs have been determined in humans. High does animal ingestion studies indicate the testes are the target organ.
Inhalation:	Occasional mild irritation effects to nose and throat may occur from inhalation of anhydrous borax dusts at level greater than 10 mg/m3.
Skin Contact:	Non-irritating.
Eye Contact:	Does not cause eye irritation in normal industrial use.
Ingestion:	Product not intended for ingestion and has low acute toxicity, Small amount (e.g a teaspoonful) swallowed accidentally are not likely to cause effects: swallowing amounts larger than that may cause gastrointestinal sypmtoms.

GHS Signal Word:
DANGER

GHS Hazard Pictograms:

GHS Classifications:

Health, Reproductive toxicity, 1

GHS Phrases:
H360 - May damage fertility or the unborn child

GHS Precautionary Statements:
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P332+313 - If skin irritation occurs: Get medical advice/attention.

Boric Acid is a white odorless, powdered or salt-like substance that is not flammable, combustible, or explosive and it presents no unuusal hazard if involved in a fire. It presents little to no hazard (to humans) and has low acute oral and dermal toxicities. Care should be taken to minimize the amount released to the environment to avoid ecological effects.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
10043-35-3	>99%	Boric acid (H3BO3)

4 FIRST AID MEASURES

Inhalation: If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Remove contaminated clothing immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of powder remains. (approx. 15-20 mins). Get medical attention if aggravation persists.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.

Ingestion: Non intended for digestion. Small amounts (e.g.a teaspoonful) swallowed accidentally are not likely to cause effects. If large amounts are swallowed, give two glasses of water or milk to drink and seek medical attention.

5 FIRE FIGHTING MEASURES

Flammability: Non flammable

Flash Point: Not applicable

Any fire extinguishing media may be ussed on nearby fires.

6 ACCIDENTAL RELEASE MEASURES

Borates may damage trees and vegetation. For dry spills, sweep, vacuum, or shovel and place in containers for disposal in accordance with applicable regulations. Avoid contamination of bodies of water during cleanup. Can cause localized contamination of surrounding waters depending on amount dissolved in these waters. Some damage to local vegetation, fish, and other aquatic life may be expected. Under usual conditions, no protective equipment is required.
Remove any intact containers from water where possible. 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. Product is a non-hazardous waste when spilled or disposed of , as defined in the Resource Conservation and Recovery Act (RCRA) regualtions (40 CFR 261).
Vacuum or sweep the material into a bag or other sealed container and dispose in accordance with local requirements.

7 HANDLING AND STORAGE

Handling Precautions: No special handling precautions are required.

Storage Requirements: Dry, indoor storage is recommended. To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in, first-out basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation. The product should be kept away from strong reducing agents.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).

Personal Protective Equip: Use goggles or vented safety glasses in excessively dusty contitions. NIOSH approved respirator in extremely dusty conditions.

Symptoms of accidental overexposure to Borates have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiiting, and diarrhea, with delayed effects of skin redness and peeling.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White, ordorless, granular substance.
Odor:	None
Solubility:	4.7% @20C/68F
Spec Grav./Density:	1.43
Boiling Point:	Decomposes
Freezing/Melting Pt.:	170.9C melting point
Vapor Pressure:	Negligible @ 20C (68F)
pH:	6.1 Aqueous solution (0.1% solution); 5.1 (1.0% solution), 3.7 (4.7% solution)

10 STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions. When heated it loses water, first forming metaboric acid and on further heating it is converted itno boric oxide.

Materials to Avoid: Strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas that could create an explosive hazard.

Hazardous Decomposition: none

Hazardous Polymerization: will not occur

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral (LD 50): Low acute oral toxicity. LD50 in rats is 4,500 to 5,000 mg/kg of body weight.

Inhalation (LC 50): Low acute inhalation toxicity. LC50 ini rats is greater than 2.0 mg/L

Skin irritation: Low acute dermal toxicity; LD50 in rabbits is greater than 10,000 mg/kg of body weight. Poorly absorbed thorugh intact skin. Non irritant.

Eye irritation: Draize test in rabbits produced eye irritation effects. Fifty years of occupational exposure to borax 5 mol indicates no adverse effects on human eye. Not considered to be a human eye irritant in normal industrial use.

Sensitation: Not a skin sensitizer.

Reproductive/developmental toxicity: Animal feeding studies in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Doses administered were many times in excess of those to which humans would normally be exposed.

Carcinogenicity/mutagenicity: No evidence of carcinogenicity in mice. No mutagenic activity was observed for boric acid in a mattery of short term mutagenicity assays.

Human data: Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

12 ECOLOGICAL INFORMATION

Environmental Fate Data:
Persistence/Degredation:Boron is naturally occurring and ubiquitous in the environment.
Octanol/Ware partition coeffecient:No value. In aqueous solution anhydrous borax converted substantially into undisassociated boric acid.
Soil Mobility:The product is soluable in water and is leachable through normal soil.

13 DISPOSAL CONSIDERATIONS

Small quantities can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such product should, if possible, be used for an appropriate application.

14 TRANSPORT INFORMATION

Not hazardous product according to these transport classifications.

15 REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

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*Boric acid (H3BO3) (10043353 n/a%) TSCA

REGULATORY KEY DESCRIPTIONS

TSCA = Toxic Substances Control Act

16 OTHER INFORMATION

Disclaimer:

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