ETİ MINE WORKS GENERAL MANAGEMENT
TECHNOLOGY & DEVELOPMENT
DEPARTMENT

BORIC ACID
HEALTH AND SAFETY DATA SHEET

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(Safety Data Sheet in compliance with REACH Title IV / Annex II and ISO 11014)

1. Identification of the Substance / Preparation and the Company / Undertaking

1.1. Identification of the substance or preparation

Boric Acid

Registration number:
To be registered under REACH Regulation (CAS No: 10043-35-3).

Trade names : Boric Acid
Chemical name/synonyms : Boric acid, Orthoboric acid, boracic acid

1.2. Use of the substance / preparation

The product is used in industrial manufacturing, in particular in:

- Ceramics
- Cosmetics
- Detergent
- Borosilicate glass
- Textile fibreglass

1.3. Company/undertaking identification

Manufacturer:
Name : ETİ MINE WORKS GENERAL MANAGEMENT
Addres : Sıhhiye, Cihan Sok. No:2, 06430, Ankara, Türkiye.
Phone No: 00 90 312 294 23 42
Fax No : 00 90 312 232 59 10

1.4. Emergency phone number: 00 90 312 294 23 45 (Available office hours)
: 00 90 312 232 59 10 (Available office hours)

2. Hazards Identification

Emergency overview
Boric acid is a white odourless, 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 boric acid is poorly absorbed through intact skin.

Inhalation
Occasional mild irritation effects to nose and throat may occur from inhalation of boric acid dusts at levels greater than 10 mg/m^3.

Eye contact
Boric acid is non-irritating to eyes in normal industrial use.

Skin contact
Boric acid does not cause irritation to intact skin.

Ingestion
Products containing Boric Acid are not intended for ingestion. Boric Acid has a low acute toxicity. Small amounts (e.g., a teaspoon) 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.

Potantional ecological effects
Large amounts of Boric Acid 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 Boric Acid have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting and diarrhoea, with delayed effects of skin redness and peeling.
Refer to section 11 for details on Toxicological data.

3. Composition / Information on Ingredients

3.1. Chemical composition:

Chemical Nature of the Substance / Preparation
The product contains greater than 99.9 percent (%) boric acid (H_3BO_3).

Components

CAS- N°	EINECS	Name	EC Classification
10043-35-3	233-139-2	Boric acid	no classification

For other "Chemical inventory listing", please refer to section 15.

4. First aid measures

Skin contact
No treatment necessary because non-irritating.

Eye contact
Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.

Inhalation
If symptoms such as nose or throat irritation are observed, remove person to fresh air.

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.

Note to physicians
Observation only is required for adult ingestion of less than 6 grams of boric acid. For ingestion in excess of 6 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Haemodialysis 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).

5. Fire-fighting measures

General hazard
None, because boric acid is not flammable, combustible or explosive. The product is itself a flame retardant.

Extinguishing media
Any fire extinguishing media may be used on nearby fires.

6. Accidental release measures

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

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).

Methods for cleaning up (Land spill)
Vacuum, shovel or sweep up boric acid 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).

7. Handling and Storage

7.1. Safe Handling Advice and storage
To maintain package integrity and to minimise 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 minimise dust generation and accumulation. Your supplier can advise you on safe handling, please contact the supplier.

7.2. Storage
No special handling precautions are required, but dry, indoor storage is recommended. No specific requirements. Provide appropriate ventilation and store bags such as to prevent any accidental damage.

7.3. Specific Use(s)
The product should be kept away from strong reducing agents. Apply above handling advice when mixing with other substances.

8. Exposure controls / Personal protection

8.1. Exposure limit values

Respect regulatory provisions for dust (total and respirable).

- *Occupational exposure limits : Boric acid is treated by OSHA, Cal OSHA and ACGIH as "Particulate Not Otherwise Classifed" or "Nuisance Dust"*

ACGIH/TLV	10 mg/m^3
Cal OSHA/PEL	10 mg/m^3
OSHA/PEL (total dust)	15 mg/m^3
OSHA/PEL (respirable dust)	5 mg/m^3

8.2. Exposure controls

8.2.1. OCCUPATIONAL EXPOSURE CONTROLS

Use local exhaust ventilation to keep airborne concentrations of boric acid dust below permissible exposure levels. Wash hands before breaks and at the end of the workday. Remove and wash soiled clothing.

- *Respiratory protection*
  In case of prolonged exposure to dust wear a personal respirator in compliance with national legislation (make reference to the appropriate CEN standart)

  Where airborne concentrations are expected to exceed exposure limits, respirators should be used.

- *Eyes and hands protection*
  Goggles and gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

8.2.2. ENVIRONMENTAL EXPOSURE CONTROLS

No special requirement.

9. Physical and chemical properties

9.1. General information

Physical state	crystalline solid
Colour	white
Odour	odourless
Molecular weight	61.83
Bulk density	780-815 kg/m^3
Specific gravity	1.51

9.2. Important health, safety and environmental information

Melting temperature	171°C (heated in closed space)
Boiling point	Not applicable
Flash point	Non flammable
Explosion hazard	Non explosive
Solubility in water	4.7% @ 20°C; 27.5% @ 100°C
Vapour pressure	Negligible @ 20°C
pH @ 20°C	6.1 (0.1 % solution)