

### SECTION 1: Identification

#### 1.1. GHS Product identifier

Product form	: Substance
Trade name	: ETİBORİK ASİT (Boric acid)
Chemical name	: Boric acid, orthoboric acid, boracic acid
IUPAC name	: boric acid
Substance type	: Mono-constituent
EC-No.	: 233-139-2
EC Index-No.	: 005-007-00-2
CAS-No.	: 10043-35-3
Formula	: H <sub>3</sub> BO <sub>3</sub>
Product group	: Trade product

#### 1.2. Other means of identification

Other means of identification	: K-REACH Registration number	: 04-1809-02153
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#### 1.3. Recommended use of the chemical and restrictions on use

Recommended use	: Ceramic Detergent Borosilicate glass Fiber glass
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#### 1.4. Supplier's details

##### Manufacturer

ETİ MADEN İŞLETMELERİ GENEL MÜDÜRLÜĞÜ

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#### 1.5. Emergency phone number

+90 312 294 20 00

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Acute toxicity (oral), Category 5	H303
Acute toxicity (dermal), Category 5	H313
Reproductive toxicity, Category 2	H361d
Hazardous to the aquatic environment – Acute Hazard, Category 3	H402

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects : May be harmful if swallowed or in contact with skin, Suspected of damaging the unborn child, Harmful to aquatic life

#### 2.2. GHS Label elements, including precautionary statements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS UN) :



Signal word (GHS UN) : Warning

Hazard statements (GHS UN) : H303+H313 - May be harmful if swallowed or in contact with skin  
H361d - Suspected of damaging the unborn child  
H402 - Harmful to aquatic life

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according to the United Nations GHS (Rev. 7, 2017)

Precautionary statements (GHS UN) : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....  
P308+P313 - IF exposed or concerned: Get medical advice/attention.  
P312 - Call a POISON CENTER/doctor/physician if you feel unwell.  
P405 - Store locked up.

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent  
IUPAC name : boric acid  
Chemical name : Boric acid, orthoboric acid, boracic acid  
Product identifiers: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Boric Acid (Main constituent)	(CAS-No.) 10043-35-3	> 99.9	Acute Tox. 5 (Oral), H303 Acute Tox. 5 (Dermal), H313 Repr. 2, H361d Aquatic Acute 3, H402

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of necessary first-aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms/effects, acute and delayed

No additional information available

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Special protective actions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin, eyes and clothing.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Collect spillage.  
Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

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Other information : Dispose of materials or solid residues at an authorized site.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### ETİBORİK ASİT (Boric acid) (10043-35-3)

##### DNEL/DMEL (Workers)

Long-term - systemic effects, dermal : 392 mg/kg bodyweight/day

Long-term - systemic effects, inhalation : 8.3 mg/m<sup>3</sup>

##### DNEL/DMEL (General population)

Acute - systemic effects, oral : 0.98 mg/kg bodyweight/day

Long-term - systemic effects, oral : 0.98 mg/kg bodyweight/day

Long-term - systemic effects, inhalation : 4.15 mg/m<sup>3</sup>

Long-term - systemic effects, dermal : 196 mg/kg bodyweight/day

##### PNEC (Water)

PNEC aqua (freshwater) : 2.9 mg/l

PNEC aqua (marine water) : 2.9 mg/l

PNEC aqua (intermittent, freshwater) : 13.7 mg/l

##### PNEC (Soil)

PNEC soil : 5.7 mg/kg dwt

##### PNEC (STP)

PNEC sewage treatment plant : 10 mg/l

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

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

Hand protection : Protective gloves

Eye protection : Safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s)



#### 8.4. Exposure limit values for the other components

No additional information available

### SECTION 9: Physical and chemical properties

#### 9.1. Basic physical and chemical properties

Physical state : Solid

Appearance : White solid, granular/powder

Molecular mass : 61.83 g/mol

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according to the United Nations GHS (Rev. 7, 2017)

Colour	: white.
Odour	: odourless.
Odour threshold	: Not available
Melting point	: 450 °C
Freezing point	: Not applicable
Boiling point	: 1860 °C
Flammability (solid, gas)	: Non flammable
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: Not applicable
Upper explosive limit (UEL)	: Not applicable
Flash point	: Non flammable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 300 °C 169 to HBO <sub>2</sub> -1 ½ H <sub>2</sub> O
pH	: 5.1 @20 °C
pH solution	: 1 %
Viscosity, kinematic (calculated value) (40 °C)	: Not applicable
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 0.000099 Pa Temp.: 25 °C
Vapour pressure at 50 °C	: Not available
Density	: 1489 kg/m <sup>3</sup> Type: 'density' Temp.: 23 °C
Relative density	: 1.49 Type: 'relative density' Temp.: 23 °C
Relative vapour density at 20 °C	: Not applicable
Solubility	: Water: 4.94g/100g @20 °C
Particle size	: Not available
Particle size distribution	: Not available
Particle shape	: Not available
Particle aspect ratio	: Not available
Particle specific surface area	: Not available

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

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

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: May be harmful if swallowed.
Acute toxicity (dermal)	: May be harmful in contact with skin.
Acute toxicity (inhalation)	: Not classified

### ETİBORİK ASİT (Boric acid) (10043-35-3)

LD50 oral rat	> 2600 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral))
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LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: other:FIFRA (40 CFR 163)
LC50 inhalation rat (mg/l)	> 2.12 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: other:USEPA FIFRA 40 CFR Part 160

Skin corrosion/irritation	: Not classified pH: 5.1 @20 °C
Serious eye damage/irritation	: Not classified pH: 5.1 @20 °C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### ETİBORİK ASİT (Boric acid) (10043-35-3)

Viscosity, kinematic	Not applicable
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## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Harmful to aquatic life.
Hazardous to the aquatic environment, short-term (acute)	: Harmful to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

### ETİBORİK ASİT (Boric acid) (10043-35-3)

LC50 - Fish [1]	79.7 mg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	74 mg/l Test organisms (species): Limanda limanda
EC50 72h - Algae [1]	66 mg/l Test organisms (species): Phaeodactylum tricornutum
EC50 72h - Algae [2]	54 mg/l Test organisms (species): Phaeodactylum tricornutum
NOEC chronic fish	6.4 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '34 d'

### 12.2. Persistence and degradability

#### ETİBORİK ASİT (Boric acid) (10043-35-3)

Persistence and degradability	Boron is naturally occurring and ubiquitous in the environment. Boric acid decomposes in the environment to natural borate.
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### 12.3. Bioaccumulative potential

#### ETİBORİK ASİT (Boric acid) (10043-35-3)

Bioaccumulative potential	Not bioaccumulative.
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### 12.4. Mobility in soil

#### ETİBORİK ASİT (Boric acid) (10043-35-3)

Mobility in soil	The product is soluble in water and is leachable through normal soil.
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### 12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

### SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

UN RTDG	IMDG	IATA
<b>14.1. UN number</b>		
Not regulated for transport		
<b>14.2. UN Proper Shipping Name</b>		
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

#### 14.6. Special precautions for user

**- UN RTDG**

No data available

**- IMDG**

No data available

**- IATA**

No data available

#### 14.7. Transport in bulk according to IMO instruments

Not applicable

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations specific for the product in question

Regulatory reference : Listed on ELINCS (European List of Notified Chemical Substances)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on the Canadian DSL (Domestic Substances List)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China).

### SECTION 16: Other information

Issue date : January 3, 2007  
Revision date : January 20, 2023

#### Indication of changes:

Added.

Section	Changed item	Change	Comments
	Precautionary statements (GHS UN)	Modified	P273 - Avoid release to the environment.

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according to the United Nations GHS (Rev. 7, 2017)

	Hazard statements (GHS UN)	Modified	H303+H313 - May be harmful if swallowed or in contact with skin H402 - Harmful to aquatic life
2.1	Adverse physicochemical, human health and environmental effects	Modified	May be harmful if swallowed or in contact with skin, Harmful to aquatic life
2.1	Classification (GHS UN)	Modified	Acute toxicity (dermal), Category 5 H313 Hazardous to the aquatic environment – Acute Hazard, Category 3 H402

### Abbreviations and acronyms

: CAS-No. - Chemical Abstract Service number  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
ATE - Acute Toxicity Estimate  
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
BCF - Bioconcentration factor  
BLV - Biological limit value  
BOD - Biochemical oxygen demand (BOD)  
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008  
COD - Chemical oxygen demand (COD)  
DMEL - Derived Minimal Effect level  
DNEL - Derived-No Effect Level  
EC50 - Median effective concentration  
EC-No. - European Community number  
ED - Endocrine disrupting properties  
EN - European Standard  
IARC - International Agency for Research on Cancer  
IATA - International Air Transport Association  
IMDG - International Maritime Dangerous Goods  
IOELV - Indicative Occupational Exposure Limit Value  
LC50 - Median lethal concentration  
LD50 - Median lethal dose  
LOAEL - Lowest Observed Adverse Effect Level  
N.O.S. - Not Otherwise Specified  
NOAEC - No-Observed Adverse Effect Concentration  
NOAEL - No-Observed Adverse Effect Level  
NOEC - No-Observed Effect Concentration  
OECD - Organisation for Economic Co-operation and Development  
OEL - Occupational Exposure Limit  
PBT - Persistent Bioaccumulative Toxic  
PNEC - Predicted No-Effect Concentration  
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
SDS - Safety Data Sheet  
STP - Sewage treatment plant  
ThOD - Theoretical oxygen demand (ThOD)  
TLM - Median Tolerance Limit  
TRGS - Technical Rules for Hazardous Substances  
VOC - Volatile Organic Compounds  
vPvB - Very Persistent and Very Bioaccumulative  
WGK - Water Hazard Class

### Training advice

: Normal use of this product shall imply use in accordance with the instructions on the packaging.

### Other information

: **DISCLAIMER OF LIABILITY** 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 or 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.

Full text of H-statements & Precautionary statements (GHS UN):	
H303	May be harmful if swallowed
H313	May be harmful in contact with skin

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H361d	Suspected of damaging the unborn child
H402	Harmful to aquatic life
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P405	Store locked up.
P501	Dispose of contents/container to in accordance with local regulations.

SDS UN - ETİ Maden

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*