BOROKSİT
Safety Data Sheet
according to the United Nations GHS (Rev. 7, 2017)
Issue date: March 1, 2007    Revision date: October 10, 2021
Version: 7.1

SECTION 1: Identification

1.1. GHS Product identifier

Product form : Substance
Trade name : BOROKSİT
Chemical name : Boron trioxide, diboron trioxide, anhydrous boric acid, boric oxide
IUPAC name : diboron trioxide
Substance type : Mono-constituent
EC-No. : 215-125-8
EC Index-No. : 005-008-00-8
CAS-No. : 1303-85-2
Formula : B2O3
Product group : Trade product

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended uses and restrictions : Not restricted
Recommended use : Ceramic, Detergent, Borosilicate glass, Fiberglass

1.4. Supplier’s details

Supplier

ETI MADEN İŞLETMELERİ GENEL MÜDÜRLÜĞÜ
Kuzılirmak Mahallesi 1443. Cadde No:5
Çukurambar-Çankaya Zipcode: 06530
Ankara – TÜRKİYE
Tel: +90 312 294 20 00 – Fax: +90 312 230 71 84
info@etimaden.gov.tr www.etimaden.gov.tr

Importer

ETIMINE USA, INC.
411 Hackensack Ave Suite 902
Hackensack, NJ 07601 USA
Tel: +1 (201) 462-1200; Fax: +1 (201) 462-1500
etimineusa@etimineusa.com www.etimineusa.com

1.5. Emergency phone number

CHEMTREC 1-800-262-8200/ (703) 741-5500

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
Reproductive toxicity, Category 2 H361d   Expert judgment
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects : Suspected of damaging the unborn child.

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 - May be harmful if swallowed
H361d - Suspected of damaging the unborn child
Precautionary statements (GHS UN) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
P312 - Call a POISON CENTER/doctor/... if you feel unwell.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
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 regulations.
classification with local, regional, national and/or international regulation.

**SECTION 3: Composition/information on ingredients**

3.1. **Substances**

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Mono-constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUPAC name</td>
<td>diboron trioxide</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Boron trioxide, diboron trioxide, anhydrous boric acid, boric oxide</td>
</tr>
</tbody>
</table>

Substance identification codes: See section 1.1

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to the United Nations GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diboron trioxide (Main constituent)</td>
<td>(CAS-No.) 1303-86-2</td>
<td>&gt; 98</td>
<td>Acute Tox. 5 (Oral), H303 Repr. 2, H361</td>
</tr>
</tbody>
</table>

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.

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.

First-aid measures after eye contact: Rinse eyes with water as a precaution.

First-aid measures after ingestion: 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**


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.

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**

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

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.

Hygiene measures: 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

<table>
<thead>
<tr>
<th>BOROKSIT (1303-86-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL/DMEL (Workers)</td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
</tr>
<tr>
<td>DNEL/DMEL (General population)</td>
</tr>
<tr>
<td>Acute - systemic effects, oral</td>
</tr>
<tr>
<td>Long-term - systemic effects, oral</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
</tr>
<tr>
<td>PNEC (Water)</td>
</tr>
<tr>
<td>PNEC aqua (freshwater)</td>
</tr>
<tr>
<td>PNEC aqua (marine water)</td>
</tr>
<tr>
<td>PNEC aqua (intermittent, freshwater)</td>
</tr>
<tr>
<td>PNEC (Soil)</td>
</tr>
<tr>
<td>PNEC soil</td>
</tr>
<tr>
<td>PNEC (STP)</td>
</tr>
<tr>
<td>PNEC sewage treatment plant</td>
</tr>
</tbody>
</table>

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.

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 |
| Molecular mass | 69.6 g/mol |
| Colour | white |
| Odour | odourless |
| Odour threshold | N.A |
| Relative evaporation rate (butylacetate=1) | No data available |
| Melting point | 450 °C |
| Freezing point | Not applicable |
| Boiling point | 1860 °C |
| Flammability (solid, gas) | N.A |
| 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: N.A
Decomposition temperature: N.A
pH: 4.4
pH solution: 1 % @20 C
Viscosity, kinematic (calculated value) (40 °C): No data available
Partition coefficient n-octanol/water (Log Pow): No data available
Partition coefficient n-octanol/water (Log Kow): Not available
Vapour pressure: Negligible @20 C
Vapour pressure at 50 °C: Not available
Density: 1838 kg/m³ Type: ‘density’ Temp.: 21.5 °C
Relative density: No data available
Relative vapour density at 20 °C: No data available
Solubility: Water: 2.7 % @20 C
Viscosity, dynamic: No data available
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
No additional information available

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): Not classified
Acute toxicity (inhalation): Not classified

BOROKSİT (1303-86-2)


LD50 dermal rabbit > 2000 mg/kg bodyweight Animal: rabbit, Guideline: other:FIFRA (40 CFR 163)

LC50 inhalation rat (mg/l) > 2.12 mg/l Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: other:USEPA FIFRA 40 CFR Part 160
BOROKSİT
Safety Data Sheet
according to the United Nations GHS (Rev. 7, 2017)

Skin corrosion/irritation : Not classified
pH: 4.4

Serious eye damage/irritation : Not classified
pH: 4.4

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Reproductive mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

BOROKSİT (1303-86-2)
Viscosity, kinematic : No data available

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

BOROKSİT (1303-86-2)
LC50 - Fish [1] 74 mg/l Test organisms (species): Limanda limanda
LC50 - Fish [2] 79.7 mg/l Test organisms (species): Pimephales promelas
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
BOROKSİT (1303-86-2)
Persistence and degradability Boron is naturally occurring and ubiquitous in the environment. Boron oxide decomposes in the environment to natural borate.

12.3. Bioaccumulative potential
BOROKSİT (1303-86-2)
Partition coefficient n-octanol/water (Log Kow) No data available
Bioaccumulative potential Not bioaccumulative.

12.4. Mobility in soil
BOROKSİT (1303-86-2)
Mobility in soil The product is soluble in water and is leachable through normal soil.

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

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

<table>
<thead>
<tr>
<th><strong>14.1. UN number</strong></th>
<th><strong>IMDG</strong></th>
<th><strong>IATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not regulated for transport</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>14.2. UN Proper Shipping Name</strong></th>
<th><strong>IMDG</strong></th>
<th><strong>IATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>14.3. Transport hazard class(es)</strong></th>
<th><strong>IMDG</strong></th>
<th><strong>IATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>14.4. Packing group</strong></th>
<th><strong>IMDG</strong></th>
<th><strong>IATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>14.5. Environmental hazards</strong></th>
<th><strong>IMDG</strong></th>
<th><strong>IATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous for the environment: No</td>
<td>Dangerous for the environment: No</td>
<td>Dangerous for the environment: No</td>
</tr>
<tr>
<td>Marine pollutant: No</td>
<td>Marine pollutant: No</td>
<td>Marine pollutant: No</td>
</tr>
</tbody>
</table>

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 IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on KECL/KECI (Korean Existing Chemicals Inventory)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on the Canadian DSL (Domestic Substances List)
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) Inventory
- Listed on the United States TSCA (Toxic Substances Control Act) inventory.

**SECTION 16: Other information**

| **Issue date** | **March 1, 2007** |
| **Revision date** | **October 10, 2021** |

**Section** | **Changed item** | **Change** | **Comments**
---|---|---|---
| | Added | This SDS was updated in accordance with the GHS (Rev.6) (2015)-Guidance on the Compilation of Safety data Sheets. This SDS was updated in line with “Etimaden Corporate Identity” ( January, 2016/ Rev. No: 05)
| | Added | This SDS was updated in line with “Standardization and Simplification of Bag Printings” (January, 2018/ Rev. No: 06)
| | Added | This SDS was updated to include K-REACH Registration number. (February, 2019/ Rev. No: 06.1)
### Abbreviations and acronyms
- **CAS-No.** - Chemical Abstract Service number
- **ADN** - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- **ADR** - European Agreement concerning the International Carriage of Dangerous Goods by Road
- **ATE** - Acute Toxicity Estimate
- **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
- **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
- **OECD** - Organisation for Economic Co-operation and Development
- **NOEC** - No-Observed Effect Concentration
- **OEL** - Occupational Exposure Limit
- **PBT** - Persistent Bioaccumulative Toxic
- **PNEC** - Predicted No-Effect Concentration
- **RID** - Regulations concerning the International Carriage of Dangerous Goods by Rail
- **SDS** - Safety Data Sheet
- **STP** - Sewage treatment plant
- **ThOD** - Theoretical oxygen demand (ThOD)
- **TRGS** - Technical Rules for Hazardous Substances
- **TLM** - Median Tolerance Limit
- **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):

<table>
<thead>
<tr>
<th>H</th>
<th>May be harmful if swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>H303</td>
<td></td>
</tr>
<tr>
<td>H361d</td>
<td>Suspected of damaging the unborn child</td>
</tr>
<tr>
<td>P201</td>
<td>Obtain special instructions before use.</td>
</tr>
<tr>
<td>P202</td>
<td>Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</td>
</tr>
<tr>
<td>P312</td>
<td>Call a POISON CENTER/doctor/... if you feel unwell.</td>
</tr>
<tr>
<td>P308+P313</td>
<td>IF exposed or concerned: Get medical advice/attention.</td>
</tr>
<tr>
<td>P405</td>
<td>Store locked up.</td>
</tr>
</tbody>
</table>
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.