Zinc Borate

Safety Data Sheet

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

Issue date: May 1, 2017 Revision date: October 10, 2021 : Version: 1.1

SECTION 1: Identification

1.1. GHS Product identifier

Product form	: Substance
Trade name	: ETİ-ZnBor (Zinc Borate)
Chemical name	: Zinc borate hydrate, hexaboron dizinc undecaoxide, dodecaboron tetrazinc docosaoxide heptahydrate.
IUPAC name	: hexaboron dizinc undecaoxide
Substance type	: Mono-constituent
EC-No.	: 235-804-2
CAS-No.	: 138265-88-0
Formula	: 2ZnO 3B2O3 3.5H2O
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	: Flame-retardant agent Industrial use resulting in manufacture of another substance (use of intermediates)

1.4. Supplier's details

Supplier	Importer
ETİ MADEN İŞLETMELERİ GENEL MÜDÜRLÜĞÜ Kızılırmak 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	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

Reproductive toxicity, Category 2	H361d
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects : Suspected of damaging the unborn child,Very toxic to aquatic life,Toxic to aquatic life with long lasting effects.

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) : H361d - Suspected of damaging the unborn child
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

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.
P391 - Collect spillage.
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 : hexaboron dizinc undecaoxide
Chemical name : Zinc borate hydrate, hexaboron dizinc undecaoxide, dodecaboron tetrazinc docosaoxide heptahydrate.

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Dodecaboron tetrazinc docosaoxide heptahydrate (Main constituent)	(CAS-No.) 138265-88-0	> 98	Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

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

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.

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.

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

ETİ-ZnBor (Zinc Borate) (138265-88-0)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1585 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	22.4 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	2.4 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	8.3 mg/m³
Long-term - systemic effects, dermal	1205 mg/kg bodyweight/day

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

Molecular mass : 434.6 g/mol

Colour : white.

Odour : odourless.

Odour threshold : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point : 650 °C

Freezing point : Not applicable

Boiling point : No data available

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	:	No data available
pH	:	6.5 – 7.5
pH solution	:	1 %
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	:	2.6 Type: 'other:specific gravity' Temp.: 20 °C
Relative density	:	Not available
Relative vapour density at 20 °C	:	No data available
Solubility	:	Water: < 0.28 @25 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) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

ETİ-ZnBor (Zinc Borate) (138265-88-0)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: other:FIFRA (40 CFR), Guideline: other:TSCA (40 CFR), Guideline: other:OECD - Not specified
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: other:federal Insecticide, Fungicide and Rodenticide Act (40 CFR), Guideline: other:Toxic Substances Control Act (40 CFR)
LC50 inhalation rat (mg/l)	4.95 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))

Skin corrosion/irritation : Not classified
pH: 6.5 – 7.5

Serious eye damage/irritation : Not classified
pH: 6.5 – 7.5

Respiratory or skin sensitisation	: Not classified
Germ cell 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

ETİ-ZnBor (Zinc Borate) (138265-88-0)	
Viscosity, kinematic	No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

ETİ-ZnBor (Zinc Borate) (138265-88-0)	
Persistence and degradability	No additional information available

12.3. Bioaccumulative potential

ETİ-ZnBor (Zinc Borate) (138265-88-0)	
Partition coefficient n-octanol/water (Log Kow)	No data available
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

ETİ-ZnBor (Zinc Borate) (138265-88-0)	
Mobility in soil	The product is slightly 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

UN RTDG	IMDG	IATA
14.1. UN number		
3077	Not applicable	Not applicable
14.2. UN Proper Shipping Name		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Not applicable	Not applicable

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14.3. Transport hazard class(es)		
9	Not applicable	Not applicable
		
14.4. Packing group		
III	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

- UN RTDG

Special provisions (UN RTDG)	: 274, 331, 335, 375
Limited quantities (UN RTDG)	: 5 kg
Excepted quantities (UN RTDG)	: E1
Packing instruction (UN RTDG)	: P002, IBC08, LP02
Special packing provisions (UN RTDG)	: PP12, B3
Portable tank and bulk container special instructions (UN RTDG)	: T1, BK2, BK3
Portable tank and bulk container special provisions (UN RTDG)	: TP33

- IMDG

No data available

- IATA

No data available

14.7. Transport in bulk according to IMO instruments

IBC code : 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 PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on the Japanese ISHL (Industrial Safety and Health Law).

SECTION 16: Other information

Issue date : 05/01/2017
Revision date : 03/01/2021

Section	Changed item	Change	Comments
		Added	This SDS has been compiled in accordance with UN-GHS (Rev.6) (2015) for the first time. (May, 2017/ Rev. No: 00)
		Added	This SDS was updated in line with “Standardization and Simplification of Bag Printings” (January, 2018/ Rev. No: 00.1)
		Added	The CAS number of ETİ-ZnBor was updated to represent the hydrated composition of the product. (September, 2018/ Rev. No: 00.2)

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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 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 TRGS - Technical Rules for Hazardous Substances TLM - Median Tolerance Limit VOC - Volatile Organic Compounds vPvB - Very Persistent and Very Bioaccumulative WGK - Water Hazard Class ThOD - Theoretical oxygen demand (ThOD)
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):	
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
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.

P391	Collect spillage.
P405	Store locked up.

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.

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