



ETiMADEN

İŞLETMELERİ GENEL MÜDÜRLÜĞÜ

PRODUCT SPECIFICATIONS

2016

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PRODUCT SPECIFICATION

Boric Acid

Technical Grade, Granular, Normal Sulphate

H₃BO₃

Orthoboric Acid

CAS #: 10043-35-3 / EC #: 233-139-2

Chemical Specification

Component	Content
B ₂ O ₃	56.25 - 56.90%
Equivalent H ₃ BO ₃	99.92 - 101.07%
SO ₄	300 ppm max.
Cl	5 ppm max.
Fe	5 ppm max.

Particle Size Specification

Size	Content
+1.000 mm	4.00% max.
-0.063 mm	4.00% max.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Boric Acid

Technical Grade, Granular, Low Sulphate

H₃BO₃

Orthoboric Acid

CAS #: 10043-35-3 / EC #: 233-139-2

Chemical Specification

Component	Content
B ₂ O ₃	56.25 - 56.90 %
Equivalent H ₃ BO ₃	99.92 - 101.07%
SO ₄	130 ppm max.
Cl	5 ppm max.
Fe	5 ppm max.

Particle Size Specification

Size	Content
+1.000 mm	4.00% max.
-0.063 mm	4.00% max.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Boric Acid

Technical Grade, Powder

H_3BO_3

Orthoboric Acid

CAS #: 10043-35-3 / EC #: 233-139-2

Chemical Specification

Component	Content
B_2O_3	56.25 - 56.80%
Equivalent H_3BO_3	99.92 - 100.89%
SO_4	300 ppm max.
Cl	5 ppm max.
Fe	5 ppm max.

Particle Size Specification

Size	Content
+1.000 mm	0.00% max.
-0.125 mm	45.00% min.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Boric Acid

Technical Grade, Granular, Ultra Low Sulphate



Orthoboric Acid

CAS #: 10043-35-3 / EC #: 233-139-2

Chemical Specification

Component	Content
B ₂ O ₃	56.25 - 56.90%
Equivalent H ₃ BO ₃	99.92 - 101.07%
SO ₄	12 ppm max.
Cl	4 ppm max.
Fe	4 ppm max.

Particle Size Specification

Size	Content
+1.000 mm	4.00% max.
-0.063 mm	4.00% max.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Boric Acid

Technical Grade, Powder, Ultra Low Sulphate

H₃BO₃

Orthoboric Acid

CAS #: 10043-35-3 / EC #: 233-139-2

Chemical Specification

Component	Content
B ₂ O ₃	56.25 - 56.90%
Equivalent H ₃ BO ₃	99.92 - 101.07%
SO ₄	12 ppm max.
Cl	4 ppm max.
Fe	4 ppm max.

Particle Size Specification

Size	Content
+1.000 mm	0.00% max.
-0.125 mm	45.00% min.

Rev. : 2016/01

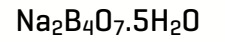
EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

ETiBOR-48

Borax Pentahydrate

TECHNICAL GRADE, GRANULAR



Disodium Tetraborate Pentahydrate

CAS #: 12179-04-3 / EC #: 215-540-4

Chemical Specification

Component	Content
B ₂ O ₃	48.00 - 49.35%
Equivalent Na ₂ B ₄ O ₇ ·5H ₂ O	100.42 - 103.24%
Na ₂ O	21.37 - 21.95%
SO ₄	135 ppm max.
Cl	70 ppm max.
Fe	3 ppm max.
Insolubles in Water	150 ppm max.

Particle Size Specification

Size	Content
+1.180 mm	4.00% max.
- 0.075 mm	5.00% max.

Rev. : 2016/01

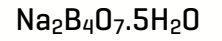
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PRODUCT SPECIFICATION

ETİBOR-48

Borax Pentahydrate

Technical Grade, Powder



Disodium Tetraborate Pentahydrate

CAS #: 12179-04-3 / EC #: 215-540-4

Chemical Specification

Component	Content
B ₂ O ₃	47.80 - 49.00%
Equivalent Na ₂ B ₄ O ₇ ·5H ₂ O	100.00 - 102.51%
Na ₂ O	21.36 - 21.81%
SO ₄	200 ppm max.
Cl	70 ppm max.
Fe	3 ppm max.
Insolubles in Water	150 ppm max.

Particle Size Specification

Size	Content
+1.180 mm	2.00% max.
- 0.075 mm	50.00% max.

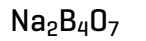
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PRODUCT SPECIFICATION

ETiBOR-68

Anhydrous Borax



Disodium Tetraborate Anhydrous

CAS #: 1330-43-4 / EC #: 215-540-4

Chemical Specification

Component	Content
B ₂ O ₃	68.00 % min.
Na ₂ O	30.27 % min.
SO ₄	300 ppm max.
Cl	105 ppm max.
Fe	50 ppm max.
Insolubles in water	920 ppm max.

Particle Size Specification

Size	Content
+1.600 mm	5.00% max.
-0.075 mm	5.00% max.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Borax Pentahydrate

TECHNICAL GRADE, GRANULAR

$\text{Na}_2\text{B}_4\text{O}_7 \cdot 5\text{H}_2\text{O}$

Disodium Tetraborate Pentahydrate

CAS #: 12179-04-3 / EC #: 215-540-4

Chemical Specification

Component	Content
B_2O_3	47.76 - 49.35%
Equivalent $\text{Na}_2\text{B}_4\text{O}_7 \cdot 5\text{H}_2\text{O}$	99.92 - 103.24%
Na_2O	21.25 - 21.95%
SO_4	135 ppm max.
Cl	70 ppm max.
Fe	5 ppm max.
Insolubles in Water	150 ppm max.

Particle Size Specification

Size	Content
+1.180 mm	6.00% max.
- 0.075 mm	5.00% max.

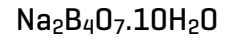
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PRODUCT SPECIFICATION

Borax Decahydrate

Technical Grade, Granular



Disodium Tetraborate Decahydrate

CAS #: 1303-96-4 / EC #: 215-540-4

Chemical Specification

Component	Content
B_2O_3	36.47 % min.
Equivalent $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$	99.90 % min.
Na_2O	16.24 % min.
SO_4	135 ppm max.
Cl	70 ppm max.
Fe	10 ppm max.

Particle Size Specification

Size	Content
+1.180 mm	4.00% max.
-0.063 mm	4.00% max.

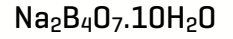
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PRODUCT SPECIFICATION

Borax Decahydrate

Technical Grade, Powder



Disodium Tetraborate Decahydrate

CAS #: 1303-96-4 / EC #: 215-540-4

Chemical Specification

Component	Content
B ₂ O ₃	36.47 % min.
Equivalent Na ₂ B ₄ O ₇ ·10H ₂ O	99.90 % min.
Na ₂ O	16.24 % min.
SO ₄	200 ppm max.
Cl	70 ppm max.
Fe	15 ppm max.

Particle Size Specification

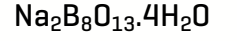
Size	Content
+1.180 mm	0.00% max.
-0.063 mm	30.00% min.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

ETiDOT-67



Disodium Octaborate Tetrahydrate

CAS #: 12280-03-4 / EC #: 234-541-0

Chemical Specification

Component	Content
B_2O_3	67.00% min.
Equivalent $\text{Na}_2\text{B}_8\text{O}_{13}\cdot 4\text{H}_2\text{O}$	99.25% min.
Na_2O	14.00% min.

Particle Size Specification

Size	Content
-0.090 mm	50.00% min.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Boron Oxide

Glassy

B₂O₃

Diboron Trioxide

CAS No: 1303-86-2 / EC No: 215-125-8

Chemical Specification

Component	Content
B ₂ O ₃	98.00% min.
SO ₄	500 ppm max.
Cl	10 ppm max.
Fe	35 ppm max.

Particle Size Specification

Size	Content
+0.250 mm	35.00% max.

PRODUCT SPECIFICATION

Boron Oxide

Porous

B₂O₃

Diboron Trioxide

CAS No: 1303-86-2 / EC No: 215-125-8

Chemical Specification

Component	Content
B ₂ O ₃	98.00% min.
SO ₄	500 ppm max.
Cl	10 ppm max.
Fe	15 ppm max.

Particle Size Specification

Size	Content
+0.315 mm	75.00% min.

Rev. : 2016/00

EYS TBL ETİ 01/24.08.2015/00

PRODUCT SPECIFICATION

Ground Colemanite

-45 Micron

$2CaO \cdot 3B_2O_3 \cdot 5H_2O$

Di-Calcium Hexaborate Pentahydrate

CAS No: 12291-65-5

Chemical Specification

Component	Content
B ₂ O ₃	40.00 ±0.50 %
CaO	27.00 ±1.00 %
SiO ₂	4.00-6.50%
SO ₄	0.60% max.
As	35 ppm max.
Fe ₂ O ₃	0.08% max.
Al ₂ O ₃	0.40% max.
MgO	3.00% max.
SrO	1.50% max.
Na ₂ O	0.50% max.
L.O.I.	25.00% max.
Moisture	1.00% max.
Bulk Density	1.00 ton/m ³ max

Particle Size Specification

Size	Content
+150 µm	0.25% max.
-45 µm	75.00% min.

Rev. : 2016/00

EYS TBL ETİ 01/24.08.2015/00

PRODUCT SPECIFICATION

Ground Colemanite

-75 Micron

$2CaO \cdot 3B_2O_3 \cdot 5H_2O$

Di-Calcium Hexaborate Pentahydrate

CAS No: 12291-65-5

Chemical Specification

Component	Content
B ₂ O ₃	40.00 ±0.50 %
CaO	27.00 ±1.00 %
SiO ₂	4.00-6.50%
SO ₄	0.60% max.
As	35 ppm max.
Fe ₂ O ₃	0.08% max.
Al ₂ O ₃	0.40% max.
MgO	3.00% max.
SrO	1.50% max.
Na ₂ O	0.50% max.
L.O.I.	25.00% max.
Moisture	1.00% max.
Bulk Density	1.00 ton/m ³ max

Particle Size Specification

Size	Content
+150 µm	0.50% max.
-75 µm	82.00% min.

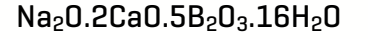
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EYS TBL ETİ 01/24.08.2015/00

PRODUCT SPECIFICATION

Ground Ulexite

-45 Micron



Sodium-Calcium Pentaborate Octahydrate

CAS No: 1319-33-1

Chemical Specification

Component	Content
B ₂ O ₃	37.00±1.00%
CaO	19.00% max
SiO ₂	4.00% max.
SO ₄	0.25% max.
As	40 ppm max.
Fe ₂ O ₃	0.04% max.
Al ₂ O ₃	0.25% max.
MgO	2.50% max.
SrO	1.00% max.
Na ₂ O	3.50% min.
Moisture	1.00% max.
Bulk Density	1.00 ton/m ³ max.

Particle Size Specification

Size	Content
+150 µm	0.25% max.
-45 µm	75.00% min.

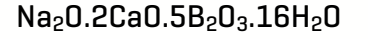
Rev. : 2016/00

EYS TBL ETİ 01/24.08.2015/00

PRODUCT SPECIFICATION

Ground Ulexite

-75 Micron



Sodium-Calcium Pentaborate Octahydrate

CAS No: 1319-33-1

Chemical Specification

Component	Content
B ₂ O ₃	37.00± 1.00%
CaO	19.00% max
SiO ₂	4.00% max.
SO ₄	0.25% max.
As	40 ppm max.
Fe ₂ O ₃	0.04% max.
Al ₂ O ₃	0.25% max.
MgO	2.50% max.
SrO	1.00% max.
Na ₂ O	3.50% min.
Moisture	1.00% max.
Bulk Density	1.00 ton/m ³ max.

Particle Size Specification

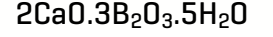
Size	Content
+150 µm	0.50% max.
-75 µm	82.00% min.

Rev. : 2016/00

EYS TBL ETİ 01/24.08.2015/00

PRODUCT SPECIFICATION

Eticol-Ceramic



Di-Calcium Hexaborate Pentahydrate

CAS #: 12291-65-5

Chemical Specification

Component	Content
B ₂ O ₃	42.00 ±1.00%
CaO	23.00-26.00%
SiO ₂	3.00-7.00%
SO ₄	0.80% max.
Fe ₂ O ₃	0.12-0.30%
Al ₂ O ₃	0.40-0.80%
MgO	1.50-3.00%
Moisture	1.00% max.

Particle Size Specification

Size	Content
-75 µm	82.00% min.

Rev. : 2016/01

EYS TBL ETİ 01/06.08.2015/00

PRODUCT SPECIFICATION

Granular Colemanite

2-4 mm

$2CaO \cdot 3B_2O_3 \cdot 5H_2O$

Di-Calcium Hexaborate Pentahydrate

CAS No: 12291-65-5

Chemical Specification

Component	Content
B_2O_3	29.50% min.
CaO	30.00% max.
SiO_2	7.00% max.
Na_2O	1.00% max.
MgO	5.00% max.
As	70 ppm max.

PRODUCT SPECIFICATION

Granular Ulexite

2-4 mm

$\text{Na}_2\text{O} \cdot 0.2\text{CaO} \cdot 0.5\text{B}_2\text{O}_3 \cdot 16\text{H}_2\text{O}$

Sodium-Calcium Pentaborate Octahydrate

CAS No: 1319-33-1

Chemical Specification

Component	Content
B_2O_3	30.00% min.
CaO	22.00% max.
SiO_2	10.00% max.
Na_2O	5.00% max.
MgO	5.00% max.
As	80 ppm max.