



ApexChem Boron

Product Catalog

<http://www.apexchemboron.com>

95% Pure Boron Powder

Introduction

Our 95% pure boron is a dark brown powder that is combustible in air at 700 °C and perfect for boron propellant applications.

Characteristics

- Small particle size (average particle size $\leq 1.5 \mu\text{m}$)
- High chemical activity
- Neutral PH value

Typical Applications

- Military and industrial propellant
- Welding applications
- Raw material for production of boron compounds

Chemical Specifications

- Purity $\geq 95\%$ boron

Sample Chemical Analysis

Element	Percent	Element	Percent
Fe	0.32	Mg	0.00067
Pb	0.0008	Cu	0.056
Zn	0.00089	Mn	0.04
Sn	0.0001	Cr	0.0093
Ni	0.005	Al	0.1
Ca	0.03	Mo	0.0005

99% Pure Boron Powder

Introduction

Our 99% pure boron is a dark brown or black powder suitable for use in air bag igniter and other applications.

Characteristics

- Small particle size (average particle size $\leq 1.5 \mu\text{m}$)
- Self-propagation usage
- High chemical activity
- Neutral PH value

Typical Applications

- Air bags
- Military and industrial propellant
- Welding applications
- Coating and hardening agent
- Self-propagating reactions

Chemical Specifications

- Purity $\geq 99\%$ boron

Sample Chemical Analysis

Element	Percent	Element	Percent
Fe	0.2	Mg	0.00018
Pb	0.0008	Cu	0.016
Zn	0.0013	Mn	0.077
Sn	0.00069	Cr	0.0041
Ni	0.0021	Al	0.12
Ca	0.027	Mo	0.0005

99.9% and 99.99%

Pure Boron Powder

Introduction

Our 99.9% and 99.99% pure boron are both black powders with high melting points (2400 °C). Both grades of pure boron are perfect for reacting with metals at high temperatures to produce boron-metal compounds.

Characteristics

- Extremely low impurity content
- Particle size $\geq 15 \mu\text{m}$
- Thorough testing ensures consistency between batches
- Low gas impurity content

Typical Applications

- Military and industrial propellant
- Target material
- Coating and hardening agent
- High quality alloys
- Hi-tech ceramics
- Deoxidizer for metal materials

Chemical Specifications

Sample Chemical Analysis: 99.9% Boron

Element	ppm	Element	ppm
Fe	140	Mg	2.0
Pb	0.2	Cu	0.8
Zn	0.2	Mn	0.5
Sn	0.3	Cr	2.8
Ni	0.3	Al	7.4
Ca	97	Mo	0.2

Sample Chemical Analysis: 99.99% Boron

Element	ppm	Element	ppm
Fe	57	Mg	3.4
Pb	0.6	Cu	0.8
Zn	0.01	Mn	0.7
Sn	0.3	Cr	2.8
Ni	0.6	Al	2.3
Ca	0.9	Mo	0.2

99.999% and 99.9999%

Pure Boron Powder

Introduction

Our two highest grades of pure boron powder, 99.999% and 99.9999%, are used mostly for hi-tech applications such as silicon doping.

Characteristics

- Extremely low impurity content
- Particle size $\geq 15 \mu\text{m}$
- Thorough testing ensures consistency between batches
- Low gas impurity content

Typical Applications

- Target material
- Coating and hardening agent
- Deoxidizer for metal materials
- Various applications in the electronics industry
- Monocrystalline silicon doping

Chemical Specifications

Sample Chemical Analysis:

99.999% Boron

Element	ppm	Element	ppm
Fe	0.7	Mg	0.6
Pb	0.2	Cu	0.1
Zn	3.2	Mn	0.3
Sn	0.3	Cr	0.1
Ni	0.02	Al	0.5
Ca	0.1	Mo	0.01

Sample Chemical Analysis:

99.9999% Boron

Element	ppm	Element	ppm
Fe	0.9	Mg	0.1
Pb	0.1	Cu	0.1
Zn	0.1	Mn	0.02
Sn	0.1	Cr	0.1
Ni	0.1	Al	0.6
Ca	0.1	Mo	0.1

99.9% and 99.99% Pure Hexagonal Boron Nitride (h-BN)

Introduction

Hexagonal boron nitride (BN) is isoelectronic with graphite and because of this is sometimes called "white graphite." It is a good lubricant, while being both an electrical insulator and a thermal conductor, making it useful in many specialty lubrication applications.

Characteristics

- Good electrical isolator/thermal conductor
- Stable at high temperatures; chemically inert
- Good lubricant
- High dielectric breakdown strength
- Not wetted by most molten metals, glasses and salts

Typical Applications

- High-temperature dry lubricant
- Production of cubic boron nitride (C-BN)
- Electrical insulation
- Wear-resistant coating
- Moulds and evaporating boats

Chemical Specifications

Sample Chemical Analysis

Element	ppm	Element	ppm
Fe	0.01	Mg	0.01
Pb	0.005	Cu	0.02
Zn	0.008	Mn	0.04
Sn	0.06	Cr	0.07
Ni	0.05	Al	0.01
Ca	0.02	Mo	0.01

Specialty Boron

Compounds & Metal Alloys

Compounds

ApexChem also produces a number of specialty boron compounds for both industrial and research use. Listed below are the specialty compounds we currently produce. Various grades and quantities are available.

- Titanium Diboride
- Chromium Diboride
- Boron Tribromide

Metal Alloys

ApexChem produces custom-made boron metal alloys for a wide range of purposes. All of our alloys are custom made to your specifications and various grades and production quantities are available. Below are the most common boron alloys we produce:

- Boron Steel
- Boron Copper

If you are interested in ordering boron compounds or metal alloys, please contact our sales department and we will be glad to assist you with your custom order.

Ordering & Contact Information

Ordering Information

Whether you are placing a standard or custom order, our sales team can assist you with the entire ordering process, including the price quote, payment, purity testing, packaging and shipping.

We can ship large quantities of all of our boron products anywhere around the globe, so please contact us if you have any special shipping requests.

How to Contact Us

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