

PRODUCT IDENTIFICATION



Product Name: Boric Acid Powder 99% Acs Grade

CAS Number: 10043-35-3

Molecular Formula: BH_3O_3

Molecular Weight: 61.84 g/mol

Grade: ACS Grade

Purity / Concentration: 99%

Synonyms: Boric Acid, Boracic Acid

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Boric Acid Powder in ACS Grade, meeting the rigorous standards required for precision laboratory and industrial applications. With an assay of 100.0% and exceptionally low trace metal levels, such as 0.1 ppm for both iron and heavy metals, this fine white powder serves as a reliable boron source for sensitive formulations.

Grade Significance: ACS Grade signifies that the product meets the strict purity standards set by the American Chemical Society, ensuring it is suitable for analytical and research-grade applications where high consistency is critical.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	99	98.5	99.5	Titration/Gravimetric
pH	—	4.3	3.8	4.8	pH Meter
Calcium Ca	%	ND	0	0.01	ICP-MS
Heavy Metals As Pb	ppm	3	—	10	ICP-MS (as Pb)
Iron	ppm	5	—	10	ICP
Lead Pb	ppm	≤ 5 ppm	—	—	ICP-MS
Sodium Na	ppm	100.0	0	180.0	ICP-OES
Chloride Cl	ppm	20	—	50	ICP
Phosphate	ppm	20	0	60	Per specification
Sulfate (SO_4^{2-})	%	ND	0	0.03	ICP-MS
Insoluble Matter	%	ND	0	0.01	Gravimetric
Loss On Drying	%	ND	0	0.5	Loss on Drying
Particle Size	μm	1	0	4	Sieve Analysis

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Fine white crystalline powder, soft texture	Odor	Odorless
Form	Solid	Boiling Point	572 °F at 760 mmHg (decomposes) (NTP, 1992)
Melting / Freezing Point	340 °F (NTP, 1992)	Flash Point	No data
Specific Gravity	1.435	Solubility	High water solubility, moderate alcohol
Molecular Formula	BH ₃ O ₃	Molecular Weight	61.84 g/mol
Density (25°C)	1.435 g/mL		

APPLICATIONS

- Glass Manufacturing** — Boric acid is utilized in the production of specialized glass to improve its overall durability and resistance to thermal shock.
- Agriculture** — It serves as a vital micronutrient source of boron in fertilizers, which is essential for healthy plant growth and development.
- Pharmaceuticals** — This high-grade powder acts as a precise preservative in select pharmaceutical formulations, ensuring product stability.
- Chemical Processing** — It is widely used across various industrial processes to act as a buffer for maintaining stable pH levels in chemical solutions.

STORAGE & HANDLING

Boric acid should be stored in a cool, dry, and well-ventilated area in a tightly sealed container to prevent moisture absorption and clumping. Proper containment is essential to minimize the risk of accidental exposure, as this substance is classified as a reproductive hazard.

- Store in a cool, dry place away from moisture.
- Use containers made of HDPE or glass to prevent contamination.
- Avoid contact with strong acids or bases.
- Ensure proper ventilation when handling to avoid inhalation of dust.
- Wear appropriate personal PPE such as gloves and goggles.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 50 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Danger



Hazard Statements:

- H360FD: May damage fertility; May damage the unborn child [Danger Reproductive toxicity]

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

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