

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, an ACS grade reagent characterized by its 99% assay and exceptionally low impurity levels, including non-detected insoluble matter. This fine crystalline powder is a versatile chemical essential for industrial pH buffering, glass manufacturing, and specialized agricultural applications.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity specifications set by the American Chemical Society, ensuring it is suitable for high-precision analytical and laboratory work. For the end user, this grade guarantees consistency and reliability in sensitive industrial or research applications.

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

1. **Agriculture** — Used as a micronutrient source to provide essential boron, which is critical for healthy plant cell wall structure and reproductive growth.
2. **Glass Manufacturing** — Incorporated into glass formulations to enhance thermal resistance, durability, and optical clarity in borosilicate glass products.
3. **Chemical Processing** — Functions as an effective pH buffer in various industrial chemical reactions to maintain stable acidity and alkalinity levels.
4. **Pharmaceuticals** — Utilized as a precise preservative or intermediate component in specific medicinal formulations requiring stringent purity standards.
5. **Metallurgy** — Applied in metal finishing and electroplating processes to improve the quality and adhesion of protective coatings.

STORAGE & HANDLING

Boric acid should be stored in a cool, dry, and well-ventilated area to prevent clumping and maintain its high-purity crystalline structure. Because this product is classified as a reproductive hazard (H360FD), secure storage is essential to prevent accidental exposure and ensure compliance with workplace safety protocols.

- 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.

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.

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