Summary Technical Data Sheet

Boric Acid

Product Name: Boric Acid
CAS Number: 10043-35-3
Formula: H_3BO_3
Molecular weight: 61.83 g/mol
Grade: Technical
Appearance: white powder
Melting point : 450°C
Boiling point: 1860°C
Solubility: soluble in water
Surface tension: 63.83 mN/m
(1.0% aqueous solution by weight)

Typical Product Specifications

Properties	Specifications
Purity (equivalent H_3BO_3)	≥ 99.90%
B_2O_3	≥ 56.25%
Specific gravity	1.43-1.51 g/cm^3
Bulk density (crystalline)	0.80-0.89 g/cm^3

Boric acid is a weak acid of boron and is a white water-soluble powder with many applications, including antiseptic, cleaner, fertilizer, lubricant, fire retardant, and additive in protective coatings, glass, metals, and ceramics.

Antiseptic/Detergent: Boric acid is used as a disinfectant and bleaching agent in soaps and detergents with the advantages of reducing washing time and temperature. Dilute solutions of boric acid are used for medical applications as antiseptics. Boric acid is used as an anti-corrosive and anti-bacterial agent in metal coating processes in industry.
Agriculture: Boron is a nutrient needed by plants for flowering, pollen production and seed development. Boric acid can be used alone or combined with standard fertilizers in soils with low boron content. It can also be used to preserve grains, such as wheat and rice.
Fire Retardant: Boric acid is used to produce borate-based fire retardants that can reduce the kindling rate of burning materials. Borate-based fire retardants are important for imparting fire resistance to resin-based wooden composite panels, marine and aviation coatings.
Wood protection: Boric acid can be applied as a solution or gel on wooden surfaces and protects wood from rotting and prevents the growth of moss and fungi.
Lubrication: Colloidal suspensions of boric acid in oils are effective lubricants for metal and ceramic surfaces since they significantly reduce the coefficient of friction.
Glass: Boric acid is used in the production of glass and glass fiber. It increases the resistance of glass to heat, chemicals, and mechanical impact. It improves the properties of glass fibers by increasing fiberizing, reducing crystallization, and enhancing physical properties and moisture resistance.
Metallurgy: Boric acid reduces energy consumption in metallurgy by improving the fusing temperature, increases the durability of steel and has a plasticizing effect when used as a slag-former.

Storage and Handling: Store in a dry and cool place and in a tight container, prevent from absorbing moisture.
Keep away from strong oxidants and alkali.

Packaging: 55 lb/25 kg

Transport Regulations: Not regulated as dangerous goods (for reference only).

The above information, while not guaranteed, reflects our analysis and believed to be accurate. It is the end user's responsibility, prior to use of the above mentioned product to determine the suitability of the product. Aqua Bond shall not be, directly or indirectly responsible for damages of any nature whatsoever resulting from the use or reliance upon the above information.

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