



BORIC ACID


MANUFACTURAS LOS ANDES S.A.

Manufacturas Los Andes S.A.'s Boric Acid is a white, crystalline, free-flowing product which is generally used in different industries. Granular Boric Acid and Boric Acid Powder are available.

PHYSICAL PROPERTIES GRANULAR BORIC ACID

Appearance	White crystalline granule.
Bulk density	0.75 Ton/m ³
Granulometry	ASTM N°20 1%retained.

BORIC ACID POWDER

Appearance	White crystalline powder.
Bulk density	0.72 Ton/m ³
Granulometry	ASTM N°200 10%retained.

CHEMICAL PROPERTIES

Purity as H_3BO_3	99.9 % Min.
Purity as B_2O_3	56.3 % Min.
Purity as Boron Element	17.4%Min.
Molecular weight	61.83
Sulfates (SO_4)*	0.095% Max.
Chlorides (Cl)*	0.070 % Max.
Humidity	0.10 % Max.
pH (5% weight of solution at 22°C)	3.8

*For special applications, a product with low content of Chlorides and Sulfates is available.

Headquarters: Provincial Route N°36, Km2 | Campo Quijano | CP. 4407 Salta - Argentina | Tel./Fax: +54 387 4904135

Production Facility: National Route N°51, Km212 | Olacapato | Salta - Argentina



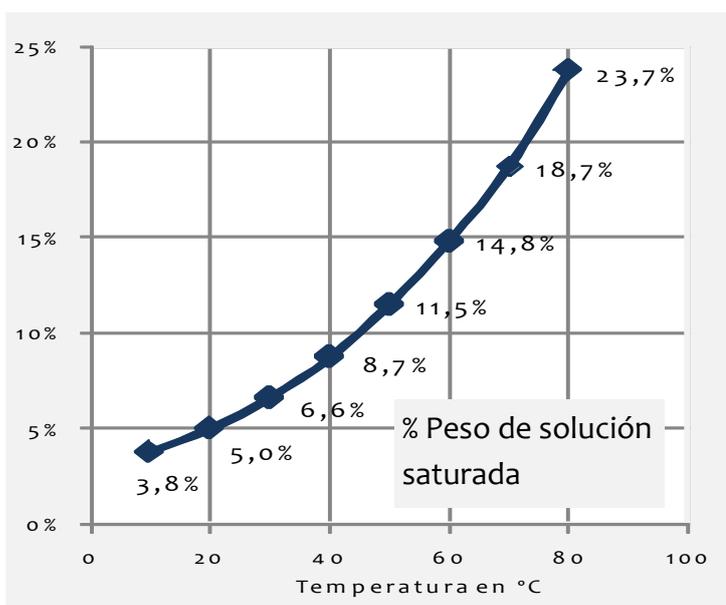
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SOLUBILITY

The following chart shows the weight percentage of a saturated solution at different temperature levels.



PACKAGING

Boric Acid is available in 25kg. polypropylene bags and in big bags of 1,000kg. (Granular) and 950kg. (Powder).

APPLICATIONS AND BENEFITS

- Agriculture and fertilizers:** Boron is one of seven micronutrients essential to plant growth. For decades, Boron deficiency has been recognized in a wide range of crops. This deficiency can be remedied by the correct application of Boric Acid.
- Glass industry:** Boron is used primarily in borosilicate glass and fiberglass, which is the strong heat-resistant glass, as lab materials. Other uses include heat resistant kitchen utensils for oven or direct flame, all types of lights and luminaires and optical glasses.
- Ceramics and enamels:** In the production of glazes and frits, Boron assists in the production of smooth, hard, resistant, blemishless ceramic surfaces. Borates are used to initiate glass formation and reduce glass viscosity and thermal expansion. Borates also increase the refractive index (or luster), enhance mechanical durability and resistance to chemicals, and help to dissolve coloring agents.
- Wood Protection:** Borates and Boric Acid specially are extremely effective in controlling and eliminating insects and fungi. Even though they are not harmful to mammals, they are toxic against ants, cockroaches, scarabs, beetles and other insects.
- Pharmaceuticals and cosmetics:** Boric Acid is used in different types of creams, lotions, facial powders, toothpaste, antiperspirants, shampoos, ophthalmological solutions and other medicines.
- Metallurgy:** This product is used in the refinery of non-ferrous metals as Chromium, Nickel, Copper, Lead, Aluminium, etc.
- Tannery:** Boric Acid is used in leather tanning and fur finishing

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