Boric Acid MSR

PRODUCT PROFILE: MSR BA – 01/2016
H3BO3
Technical Grade: 99,9%

MSR
Minera Santa Rita

Characteristics

Molecular weight	61.83
Purity like B element	17.4% Min.
Purity like B_2O_3	99.9% Min.

Boric Acid MSR is a white, crystalline, free flowing product used in ceramics, fiber glass, borosilicate glass, wood protection, cellulose insulation, metallurgy, flame retardants, corrosion inhibition and in the agriculture industry as both fertilizer and growth regulator.

Chemical and Physical Properties

Boric Acid Granular

Boric Acid Powder

B_2O_3	56.25 % Min.
Sulfates (SO_4)	0.0950 % Max.
Chlorides (CL-)	0.0700 % Max.
Humidity	0.10 % Max.

pH

pH = 3.8
(5% by weight of solution at 2ºC)

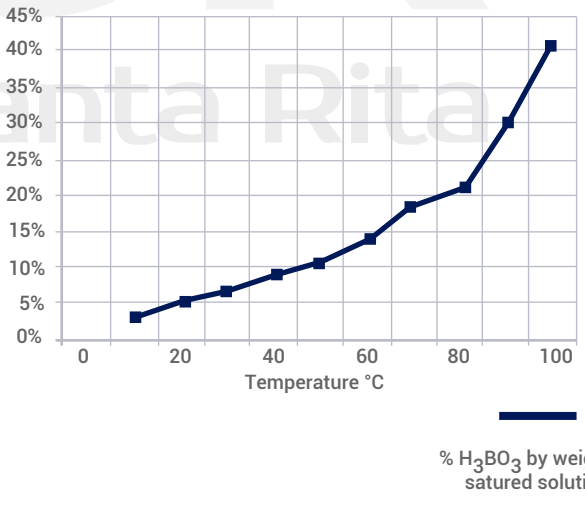
Bulk density

Granular: 0.75 Ton/m3
Powder: 0.72 Ton/m3

Sieve specification

Granular: Mesh size ASTM Nº20 = 1% retained
Powder: Mesh Size ASTM nº200 = 10% retained

Solubility in water



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Packaging

Boric Acid Granular MSR is available in 25kg polypropylene bags and in bulk bags with 1000kg.
Boric Acid Powder MSR is available in 25kg polypropylene bags and in bulk bags with 950kg.

Applications and benefits

Agriculture and Fertilizer

Boron is an essential micronutrient to all plants growth. Boron fertilizers are usually mixed with other compounds or NPK fertilizers to correct boron deficiency.

Flame-Retardant

Boric Acid is an effective chemical as a flame retardant. It is used on an ample array of products: wood, plywood, textile products, cotton, paper and cellulose.

Glass and Fiber Glass

Borosilicate* chemicals* replaces the sodium oxide* As a replacement of sodium oxide, Boric Oxide is...* Boron* compounds are important component in optical glass industries* as they are used to reduce thermal and mechanical shocks while increasing chemical resistance and durability.

Ceramics

Boron compounds reduce significantly the melting point and can be used as essential ingredients in the production of ceramic frits and borosilicate glazes. Boric Acid is used to control the coefficient of expansion to ensure that the glaze remains fixed with the body without cracking or distorting.

Corrosion Inhibitor

Different Boric Acid compositions can be used as corrosion inhibitors and anti-freezing solutions (mixed with Ethylene Glycol in automobile motor cooling systems), as well as in brewing, heat treating, hydraulic fluids and to treat metallic products.

Wood Preservatives and Pesticides

Borates and specially Boric Acid are very effective in controlling and eliminating insects and fungi. Even though they are not harmful to mammals, they are toxic against cockroaches, ants, scarabs, larvae and other insects.

Metallurgy

Boron is used as sealing for non-ferrous metals and as a deoxidizer and degasifier in metallurgy. Because it absorbs neutrons, it is used in the production of steep. Traces of boron in steel increase its strength. Boron also eliminates impurities in metallurgist systems, resulting in a high purity material to be used in electrical conductors.

Pharmaceuticals and Cosmetics

Boric Acid is recognized for its application as a pH buffer and as a moderate antiseptic agent and emulsifier. It is a component of ointments, mouth-washes, eye-drops, bath salts, creams and shampoos. It can be used to give the skin a cooling sensation due to its good thermal conductivity. It is also known that boron compounds made with 10B isotope selectively destroy cancer cells.

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