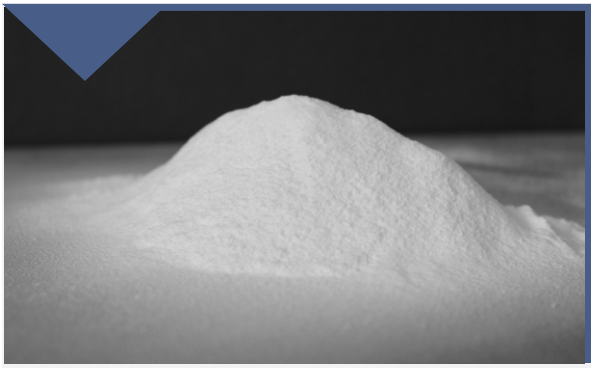


PRODUCT PROFILE
N°MSR-BA-01/2015

BORIC ACID MSR

H_3BO_3
Technical Grade: 99,9%

Characteristics

Molecular Weight	61.83
Purity like B element	17.4 % Min.
Purity like H_3BO_3	99.9 % Min.

Boric Acid MSR is a white, crystalline and free-flowing product used in Ceramics, Fiber glass, Wood protection, Borosilicate Glass, Cellulose Isolation, Metallurgy, Flame retardants, Corrosion inhibitors and in the Agriculture Industry as a fertilizer and growth regulator.

Chemical and Physical Properties

Boric Acid Fine 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 22°C)

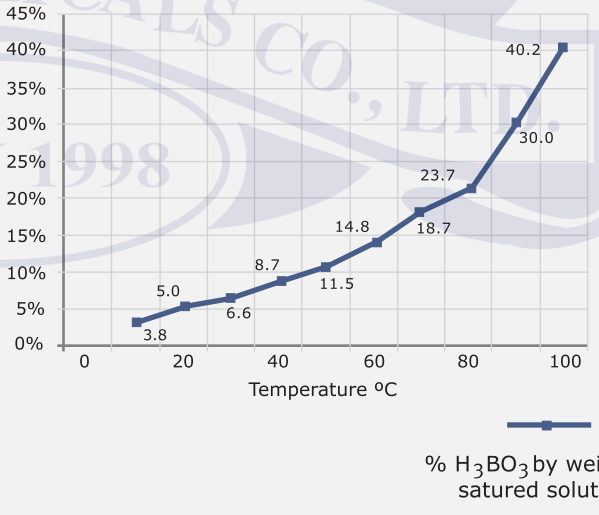
Bulk density

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

Sieve specification

Granular: Mesh size ASTM Nº 20 = 1% retained
Powder: Mesh Size ASTM nº 200 = 10% retained

Solubility in water



Packaging

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

57 cm

Applications and benefits

Agriculture and Fertilizer

Boron is an essential micronutrient for plant growth. Boron fertilizers mixed with other compounds or NPK fertilizers are useful boron-deficient soils.

Flame-Retardant

Boron is an effective chemical flame retardant for an ample array of products. It is also used for wood, plywood, textile products, cotton, paper and cellulose.

Fiber Glass and Glass

Boron fiber provides very high tensile strength and can be added to plastics to make a material that is stronger than steel yet lighter than aluminium. Boron is used primarily in fiberglass and boronsilicate glass, which is the strong heat-resistant glass that contains a minimum of 5 percent boric oxide. The resistance to heat and chemical is attributable to the boric oxide which replace for sodium oxide in the structure of the glass, creating low thermal expansion. Replace for sodium oxide, Boric Oxide is a powerful base offering a high quality of heat and chemical resistance. Boric compounds are important components in optical glass industry to reduce thermal and mechanical shocks but to increase chemical resistance and durability.

Ceramics

Boric compounds reduce significantly the melting point and can be used as an essential ingredient for the production of ceramic frits and borosilicate glazes. Boric compounds are used to control the coefficient of expansion to ensure that the glaze remains fixed with the body without crazing or distortion.

Corrosion Inhibitor

Different boric composition can be used as Corrosion Inhibitors and anti-freeze (mixed with Ethylene Glycol in automobile motor cooling systems), as well as in brewing, heat treating, hydraulic fluids, and treatment of metallic products.

Wood Preservatives and Pesticides

Borates and Boric Acid are very effective in controlling and eliminating insects and fungi. Though they are not harmful to mammals, they are toxic against cockroaches, ants, scarabs, larvae, and other insects, resulting in manipulation at any location and environment.

Metallurgy

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

Pharmaceuticals and Cosmetics

Boric Acid is recognised 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 for skin cooking sensation due to good thermal conductivity. It is also known boron compounds made with all 10B isotope selectively destroy cancer cell.