



IS 10116 Boric Acid-Specification

Boric acid, a weak monobasic Lewis acid of boron, is a versatile chemical compound with the formula H_3BO_3 or $\text{B}(\text{OH})_3$. It is commonly found in the form of colorless crystals or a white powder that dissolves in water. Naturally occurring in certain minerals, volcanic waters, and seawater, boric acid is widely available for various industrial, medicinal, and household applications. Boric acid is weakly acidic, with antiseptic, antifungal, and insecticidal properties. It is soluble in water and alcohol and has a relatively low toxicity. In its crystalline or powdered form, boric acid is odorless and has a slightly oily texture. It is stable at room temperature but decomposes at higher temperatures.

To meet consumer expectations, boric acid must exhibit high purity, with quality parameters such as minimum **boric acid content (99.9% for special quality, 99.5% for technical grade), moisture content, water-insoluble matter, and limited heavy metals**. These parameters ensure the compound's effectiveness and safety for various industrial uses. For example, high boric acid content ensures its efficiency in applications like capacitors and electronics, where precision is crucial. Low levels of impurities like chlorides and sulfates are essential for its use in high-temperature and reactive environments, as they prevent corrosion and unwanted reactions.

The document specifies the standards for boric acid under IS 10116:2015, detailing its use in various industries, including **glass, ceramics, electronics, nuclear energy, and fireproofing**. The standard applies to all uses **except cosmetics**, which are covered by a separate standard (IS 263:1990).

The standard specifies these quality expectations by specifying rigorous testing methods for each parameter. Special quality boric acid must meet stricter purity and impurity limits than technical grade, aligning with its more sensitive applications. The standard also prescribes packing requirements to maintain product quality during storage and transport, such as packaging technical grade boric acid in jute bags with liners. By setting these specifications, IS 10116:2015 ensures that boric acid consistently meets safety, purity, and performance standards, providing a reliable product across diverse industrial and commercial applications.

In summary, **IS 10116** is your assurance that the Boric acid you buy are safe, and of high quality. Next time you purchase Boric acid, look for the BIS mark to ensure they meet these standards, giving you peace of mind for your and industry's safety.