



## **IS 4200 : 2020 Sodium Aluminate — Specification**

**Sodium Aluminate** is a versatile **inorganic chemical** commonly used across industries for **water treatment, textile processing, and construction** due to its unique **flocculating** and **alkalizing** properties. In water treatment, sodium aluminate aids in removing suspended solids and colors, effectively clarifying water by forming precipitates of aluminum hydroxide. This chemical is also employed in various industrial processes where **alkaline aluminum** is needed, including the manufacturing of lake colors, **textile printing, paper sizing, and soap production**.

The **IS 4200:2020** standard, issued by the Bureau of Indian Standards, sets stringent quality requirements for sodium aluminate, ensuring it meets consumer and industry needs. The standard specifies that sodium aluminate must have at least **40% caustic alkalinity (as Na<sub>2</sub>O)** and **52% water-soluble aluminate (as Al<sub>2</sub>O<sub>3</sub>)**. To ensure safe and efficient use, the standard limits impurities, including **iron oxide, silica, sulphates, and chlorides**, which could hinder performance in sensitive applications. Furthermore, harmful contaminants such as **lead, arsenic, cadmium, chromium, mercury, and nickel** are tightly controlled to ensure compliance with health and safety regulations, especially in **water purification** and applications involving public health.

IS 4200:2020 also prescribes comprehensive **testing methods** for each impurity and property, including spectrophotometric analysis and titration, to verify compliance with required limits. Additionally, the standard outlines **packaging** guidelines to prevent sodium aluminate from absorbing moisture and carbon dioxide from the atmosphere, which can lead to caking. The product must be packed in **airtight containers** with labels clearly showing the **product name, batch number, manufacturer information, and date of production** for traceability.

With these detailed specifications, **IS 4200:2020** assures industries of sodium aluminate's **high purity, safety, and consistency**, making it a reliable choice for applications in **water treatment, textile manufacturing, and construction materials**.