



TECHNICAL DATA SHEET

Product Name: Sodium Octaborate Tetrahydrate

CAS No.: 12280-03-4

EC No.: 234-541-0

Molecular Formula: $\text{Na}_2\text{B}_8\text{O}_{13}\cdot 4\text{H}_2\text{O}$

Molecular Weight: 412.52 g/mol

EINECS No.: 234-541-0

1. Product Description

Sodium Octaborate Tetrahydrate (SOT) is a white, odorless, crystalline powder or granule, highly soluble in water. It is commonly used as a wood preservative, flame retardant, and insecticide, especially for termites and fungi control. It also finds use in ceramics, agriculture, and corrosion inhibition.

2. Typical Specifications

Parameter	Specification
Appearance	White crystalline powder
Boron Content	$\geq 67.8\%$
B_2O_3 Content	$\geq 20.5\%$
Na_2O Content	15.0–15.9%
pH (1% solution)	7.0–8.5
Solubility in Water (20°C)	Approx. 21.9%
Density	1.73 g/cm ³
Melting Point	75°C (loses water of hydration)
Heavy Metals	≤ 10 ppm
Insolubles	$\leq 0.1\%$

3. Applications

Wood Preservation: Protects against termites, beetles, mold, and fungi.

Flame Retardants: Used in wood, cellulose insulation, and polymers.

Agriculture: Micronutrient boron source in fertilizers.

Ceramics and Glass: Enhances chemical durability and thermal resistance.

Industrial Cleaning Agents and metalworking fluids as a pH buffer and corrosion inhibitor.

4. Packaging & Storage

Packaging: 25kg kraft paper bags or jumbo bags.

Storage: Store in a dry, cool, well-ventilated place. Avoid moisture exposure.

Shelf Life: At least 24 months under recommended storage conditions.

5. Safety & Handling

Avoid inhalation or prolonged skin contact.

Use personal protective equipment when handling.

Refer to SDS (Safety Data Sheet) for full safety and hazard information.

