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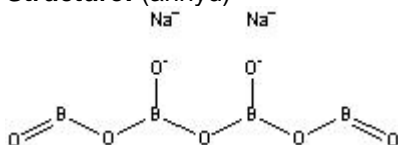
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## TECHNICAL INFORMATION

Catalog Number: 190308, 190309

### Borax

#### Structure: (anhyd)



#### Decahydrate:

**Molecular Formula:**  $B_4Na_2O_7 \cdot 10H_2O$

**Molecular Weight:** 381.4

**CAS #:** 1303-96-4

#### Anhydrous:

**Molecular Formula:**  $B_4O_7Na_2$

**Molecular Weight:** 207.2

**CAS #:** 1330-43-4

**Synonyms:** Sodium borate; Sodium tetraborate; Sodium diborate; Sodium pyroborate

**Solubility:** Anhydrous is slowly soluble in water; Decahydrate is soluble in water (1 g/16 ml at room temperature; 1 g/0.6 ml boiling water) or glycerol (1 g/ml at room temperature). Insoluble in ethanol.<sup>1</sup>

**Description:** Typically used as a buffer component.<sup>2</sup> The pH of a solution is approximately 9.3 over a wide range of concentrations. The Merck Index<sup>1</sup> lists other uses as:

- Used in the manufacturing of glazes and enamels
- A component in tanning agents; curing and preserving skins
- A agent used in cleaning compounds
- Used to artificially age wood
- As a preservative, either alone or with other antiseptics against wood fungus
- Used in fireproofing fabrics and wood
- Used as antiseptic
- Used in detergents
- An astringent for mucous membranes.

#### Availability:

| Catalog Number | Description        | Size                   |
|----------------|--------------------|------------------------|
| 190308         | Borax, decahydrate | 500 g<br>1 kg<br>5 kg  |
| 190309         | Borax, anhydrous   | 100 g<br>500 g<br>1 kg |

#### References:

- *Merck Index*, **12th Ed.**, No. 8733
- Dawson, R.M.C., et al. (eds.), *Data for Biochemical Research*, 3rd Ed.: Clarendon: Oxford, p. 421 (1986).
- Landolph, J.R., "Cytotoxicity and negligible genotoxicity of borax and borax ores to cultured mammalian cells." *Am J. Ind. Med.*, **v. 7:1**, 31-43 (1985).
- Zerbino, J.O., "Ellipsometric and photocurrent characterization of oxide films formed on copper in borax solution with and without benzotriazol." *Electrochimica Acta*, **v. 45:4-5**, 819-825 (1999).
- Arvidsson, T., Collijn, E., Tivert, A.M. and Rosen, L., "Peak distortion in the column liquid chromatographic determination of omeprazole dissolved in borax buffer." *J. Chromatogr.*, **v. 586:2**, 271-276 (1991).