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Sodium Borate

$\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ 381.37
 $\text{Na}_2\text{B}_4\text{O}_7$ 201.22
Borax CAS RN®: 1303-96-4.
Anhydrous CAS RN®: 1330-43-4.

DEFINITION

Sodium Borate contains an amount of $\text{Na}_2\text{B}_4\text{O}_7$ equivalent to NLT 99.0% and NMT 105.0% of $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$.

IDENTIFICATION

- **A. IDENTIFICATION TESTS—GENERAL, [Sodium](#) (191).**
Sample solution: 1 in 20
Acceptance criteria: Meets the requirements
- **B. IDENTIFICATION TESTS—GENERAL, [Borate](#) (191).**
Sample solution: 1 in 20
Acceptance criteria: Meets the requirements

ASSAY

- **PROCEDURE**
Sample: 3 g of Sodium Borate
Titrimetric system
(See [Titrimetry](#) (541).)
Mode: Direct titration
Titrant: 0.5 N hydrochloric acid VS
Blank: 50 mL of water
Endpoint detection: Visual
Analysis: Dissolve the *Sample* in 50 mL of water, add methyl red TS, and titrate with 0.5 N hydrochloric acid VS. [NOTE—Heating on a steam bath may be required initially to effect solution.]
Calculate the percentage of sodium borate ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$) in the *Sample* taken:

$$\text{Result} = [(V - B) \times N \times F] \times 100/W$$

- V = volume of *Titrant* consumed by the *Sample* (mL)
 B = volume of *Titrant* consumed by the *Blank* (mL)
 N = actual normality of the *Titrant* (mEq/mL)
 F = equivalency factor, 190.7 mg/mEq
 W = weight of the *Sample* (mg)

Acceptance criteria: 99.0%–105.0%

IMPURITIES

- **CARBONATE AND BICARBONATE**
Sample solution: To 5 mL of a solution (1 in 20), contained in a test tube, add 1 mL of 3 N hydrochloric acid.
Acceptance criteria: No effervescence is observed.

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in tight containers.

Topic/Question	Contact	Expert Committee
SODIUM BORATE	Documentary Standards Support	SE2020 Simple Excipients
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SE2020 Simple Excipients

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. Information currently unavailable

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