V_S = volume of *Titrant* consumed by the *Sample* (mL)
V_B = volume of *Titrant* consumed by the *Blank* (mL)
N = actual normality of the *Titrant* (mEq/mL)
F = equivalency factor, 144.1 mg/mEq
W = weight of the *Sample* (mg)

Acceptance criteria: 99.0%–100.5% on the anhydrous basis

IMPURITIES

• **HEAVY METALS** ⟨**231**⟩
Test preparation: 4.0 g in 40 mL of water
Analysis: To the *Test preparation* add dropwise with vigorous stirring 10 mL of 3 N hydrochloric acid, and filter. Use 25 mL of the filtrate.
Acceptance criteria: NMT 10 ppm

SPECIFIC TESTS

• **WATER DETERMINATION,** *Method I* ⟨**921**⟩**:** NMT 1.5%
• **ALKALINITY**
Sample solution: 2 g in 20 mL of hot water
Analysis: To the *Sample solution* add 2 drops of phenolphthalein TS.
Acceptance criteria: The pink color produced, if any, is discharged by the addition of 0.20 mL of 0.10 N sulfuric acid.

ADDITIONAL REQUIREMENTS

• **PACKAGING AND STORAGE:** Preserve in well-closed containers.
• **USP REFERENCE STANDARDS** ⟨**11**⟩
USP Sodium Benzoate RS

Sodium Bicarbonate—*see Sodium Bicarbonate General Monographs*

Sodium Borate

$Na_2B_4O_7 \cdot 10H_2O$ 381.37
$Na_2B_4O_7$ 201.22
Borax [1303-96-4].
Anhydrous [1330-43-4].

DEFINITION

Sodium Borate contains an amount of $Na_2B_4O_7$ equivalent to NLT 99.0% and NMT 105.0% of $Na_2B_4O_7 \cdot 10H_2O$.

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 ($Na_2B_4O_7 \cdot 10H_2O$) 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%

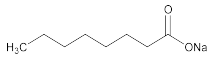
IMPURITIES

• **HEAVY METALS** ⟨**231**⟩
Test preparation: Dissolve 1 g in 16 mL of water and 6 mL of 1 N hydrochloric acid. Dilute with water to 25 mL.
Acceptance criteria: NMT 20 ppm
• **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.

Sodium Caprylate



$C_8H_{15}NaO_2$ 166.20
Sodium octanoate [1984-06-1].

» Sodium Caprylate contains not less than 99.0 percent and not more than 101.0 percent of $C_8H_{15}NaO_2$, calculated on the anhydrous basis.

USP Reference standards ⟨11⟩**—**
USP Caprylic Acid RS

Appearance of solution—Dissolve 2.5 g of Sodium Caprylate in 25.0 mL of freshly boiled and cooled water: the resulting solution is clear and colorless, and if not, not more intensely colored than a reference solution prepared as follows:

Reference stock solution—Pipet 30.0 mL of ferric chloride CS, 30.0 mL of cobaltous chloride CS, and 24.0 mL of cupric sulfate CS into a 100-mL volumetric flask. Dilute with 1% (w/v) hydrochloric acid to volume, and mix.

Reference solution—Pipet 1.0 mL of the *Reference stock solution* into a 100-mL volumetric flask. Dilute with 1% (w/v) hydrochloric acid to volume, and mix.

Identification—

A: The retention time of the major peak in the chromatogram of *Test solution 1* corresponds to that in the chromatogram of the *Reference solution,* as obtained in the test for *Chromatographic purity.*

B: Proceed as directed below.

Methoxyphenylacetic reagent—Dissolve 2.7 g of methoxyphenylacetic acid in 6 mL of 10% tetramethylammonium hydroxide solution in methanol, and add 20 mL of alcohol. Store in a polyethylene container.

Procedure—Dissolve about 20 mg of Sodium Caprylate in 0.5 mL of water, add 1.5 mL of *Methoxyphenylacetic reagent,* and cool in ice water for 30 minutes. A voluminous, white, crystalline precipitate is formed. Place in water at 20°, and stir for 5 minutes. The precipitate does not disappear. Add 1 mL of ammonia TS. The precipitate dissolves completely. Add 1 mL of ammonium carbonate solution (16 in 100): no precipitate is formed.

pH ⟨791⟩**:** between 8.0 and 10.5, in a solution obtained in the test for *Appearance of solution.*