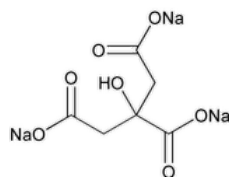


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Sodium Citrate



$C_6H_5Na_3O_7$ 258.07

1,2,3-Propanetricarboxylic acid, 2-hydroxy-, trisodium salt;

Trisodium citrate (anhydrous) CAS RN®: 68-04-2.

$C_6H_5Na_3O_7 \cdot 2H_2O$ 294.10

Trisodium citrate dihydrate CAS RN®: 6132-04-3.

DEFINITION

Sodium Citrate is anhydrous or contains two molecules of water of hydration. It contains NLT 99.0% and NMT 100.5% of $C_6H_5Na_3O_7$, calculated on the anhydrous basis.

IDENTIFICATION

- **A.** [IDENTIFICATION TESTS—GENERAL, Sodium\(191\)](#).

Sample solution: 50 mg/mL

Acceptance criteria: Meets the requirements

- **B.** [IDENTIFICATION TESTS—GENERAL, Citrate\(191\)](#).

Sample solution: 50 mg/mL

Acceptance criteria: Meets the requirements

- **C.** Upon ignition, it yields an alkaline residue that effervesces when treated with 3 N hydrochloric acid.

ASSAY

• PROCEDURE

Sample: Add 100 mL of glacial acetic acid to 350 mg of Sodium Citrate (previously dried at 180° for 18 h) in a 250-mL beaker. Stir until completely dissolved.

Analysis: Titrate with 0.1 N perchloric acid VS, determining the endpoint potentiometrically. Perform a blank determination, and make any necessary correction (see [Titrimetry \(541\)](#)). Each mL of 0.1 N perchloric acid is equivalent to 8.602 mg of $C_6H_5Na_3O_7$.

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

IMPURITIES

• TARTRATE

Analysis: To a solution of 1 g in 2 mL of water in a test tube add 1 mL of potassium acetate TS and 1 mL of 6 N acetic acid. Rub the wall of the tube with a glass rod.

Acceptance criteria: No crystalline precipitate is formed.

SPECIFIC TESTS

• ALKALINITY

Sample solution: 1.0 g in 20 mL of water

Acceptance criteria: The *Sample solution* is alkaline to litmus paper, but after the addition of 0.20 mL of 0.10 N sulfuric acid, no pink color is produced by 1 drop of phenolphthalein TS.

- [WATER DETERMINATION, Method III\(921\)](#): Dry a sample at 180° for 18 h: the anhydrous form loses NMT 1.0% of its weight; the hydrous form loses 10.0%–13.0% of its weight.

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in tight containers.
- **LABELING:** Label it to indicate whether it is anhydrous or hydrous.

Auxiliary Information - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
SODIUM CITRATE	Documentary Standards Support	SM22020 Small Molecules 2
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM22020 Small Molecules 2

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

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