



Edition: BP 2025 (Ph. Eur. 11.6 update)

## Sodium Acid Citrate

### [General Notices](#)

Disodium Hydrogen Citrate

$\text{C}_6\text{H}_6\text{Na}_2\text{O}_7 \cdot 1\frac{1}{2}\text{H}_2\text{O}$  263.1 144-33-2

### Action and use

Anticoagulant.

### DEFINITION

Sodium Acid Citrate contains not less than 98.0% and not more than 104.0% of  $\text{C}_6\text{H}_6\text{Na}_2\text{O}_7 \cdot 1\frac{1}{2}\text{H}_2\text{O}$ .

### CHARACTERISTICS

A white powder.

Freely soluble in [water](#); practically insoluble in [ethanol \(96%\)](#).

### IDENTIFICATION

Yields the reactions characteristic of [sodium salts](#) and of *citrates*, [Appendix VI](#).

### TESTS

#### Acidity

pH of a 3% w/v solution, 4.9 to 5.2, [Appendix V L](#).

#### Arsenic

0.50 g dissolved in 25 mL of [water](#) complies with the [limit test for arsenic](#), [Appendix VII](#) (2 ppm).

#### Chloride

Dissolve 1.0 g in 100 mL of [water](#). 15 mL of the resulting solution complies with the [limit test for chlorides](#), [Appendix VII](#) (330 ppm).

#### Oxalate

Dissolve 1.0 g in 4 mL of [water](#), add 3 mL of [hydrochloric acid](#) and 1 g of granulated [zinc](#) and heat on a water bath for 1 minute. Allow to stand for 2 minutes, decant the liquid into a test tube containing 0.25 mL of a 1% w/v solution of [phenylhydrazine hydrochloride](#) and heat to boiling. Cool rapidly, transfer to a graduated measuring cylinder, add an equal volume of [hydrochloric acid](#) and 0.25 mL of [potassium hexacyanoferrate\(III\) solution](#), shake and allow to stand for 30 minutes. Any red colour produced is not more intense than that produced by treating in the same manner 4 mL of a 0.005% w/v solution of [oxalic acid](#) (150 ppm, calculated as anhydrous oxalic acid).

#### Sulfate

Dissolve 0.50 g in 57 mL of [water](#) and add 3 mL of [2M hydrochloric acid](#). 15 mL of the resulting solution complies with the [limit test for sulfates, Appendix VII](#) (0.12%).

#### Readily carbonisable substances

Heat 1.0 g, in powder, with 10 mL of [sulfuric acid](#) for 30 minutes in a water bath protected from light. Not more than a pale brown colour is produced.

### ASSAY

Heat 2 g until carbonised, cool and boil the residue with 50 mL each of [water](#) and [0.5M hydrochloric acid VS](#). Filter, wash the filter with [water](#) and titrate the excess of acid in the filtrate and washings with [0.5M sodium hydroxide VS](#) using [methyl orange solution](#) as indicator. Each mL of [0.5M hydrochloric acid VS](#) is equivalent to 65.78 mg of  $C_6H_6Na_2O_7 \cdot 1\frac{1}{2}H_2O$ .