



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

Acetic Acid (33 per cent)

[General Notices](#)

Acetic Acid

Preparation

[Acetic Acid \(6 per cent\)](#).

DEFINITION

Acetic Acid (33 per cent) contains not less than 32.5% and not more than 33.5% w/w of acetic acid, $C_2H_4O_2$.

CHARACTERISTICS

A clear, colourless liquid.

Miscible with [water](#), with [ethanol \(96%\)](#) and with [glycerol](#).

IDENTIFICATION

- A. Strongly acidic, even when diluted freely.
- B. When neutralised, yields the reactions characteristic of *acetates*, [Appendix VI](#).

TESTS

[Weight per mL](#)

1.040 to 1.042 g, [Appendix V G](#).

Chloride

Dilute 5.0 mL with sufficient [water](#) to produce 100 mL. 15 mL of the resulting solution complies with the [limit test for chlorides](#), [Appendix VII](#) (70 ppm).

Sulfate

12.5 mL of the solution used in the test for Chloride, diluted to 15 mL with [water](#), complies with the [limit test for sulfates](#), [Appendix VII](#) (240 ppm).

Aldehydes

Distil 15 mL. To the first 5 mL of the distillate add 10 mL of a 5% w/v solution of [mercury\(II\) chloride](#), make alkaline with 5M [sodium hydroxide](#), allow to stand for 5 minutes and make acidic with 1M [sulfuric acid](#). The solution shows not more than a faint turbidity.

Formic acid and oxidisable impurities

Mix 5 mL with 6 mL of [sulfuric acid](#) and cool to 20°. Add 2 mL of 0.0167M [potassium dichromate VS](#), allow to stand for 1 minute, add 25 mL of [water](#) and 1 mL of freshly prepared [dilute potassium iodide solution](#) and titrate the liberated iodine with 0.1M [sodium thiosulfate VS](#) using [starch mucilage](#) as indicator. Not less than 1.0 mL of 0.1M [sodium thiosulfate VS](#) is required.

Readily oxidisable impurities

To 5.0 mL add 20 mL of [water](#) and 0.2 mL of 0.02M [potassium permanganate VS](#) and allow to stand for 1 minute. The pink colour is not entirely discharged.

Non-volatile matter

When evaporated to dryness and dried at 105°, leaves not more than 0.01% w/w of residue.

ASSAY

Weigh 5 g into a stopper flask containing 50 mL of [water](#) and titrate with [1M sodium hydroxide VS](#) using [phenolphthalein solution R1](#) as indicator. Each mL of [1M sodium hydroxide VS](#) is equivalent to 60.05 mg of $C_2H_4O_2$.