

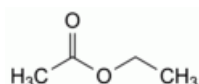


Edition: BP 2025 (Ph. Eur. 11.6 update)

## Ethyl Acetate

### [General Notices](#)

(Ph. Eur. monograph 0899)



C<sub>4</sub>H<sub>8</sub>O<sub>2</sub> 88.1 141-78-6

### Action and use

Excipient.

Ph Eur

## DEFINITION

Ethyl ethanoate.

## CHARACTERS

### Appearance

Clear, colourless, volatile liquid.

### Solubility

Soluble in water, miscible with acetone, with ethanol (96 per cent) and with methylene chloride.

## IDENTIFICATION

*First identification:* B.

*Second identification:* A, C, D.

- A. Boiling point ([2.2.12](#)): 76 °C to 78 °C.
- B. Infrared absorption spectrophotometry ([2.2.24](#)).

*Comparison* [Ph. Eur. reference spectrum of ethyl acetate](#).

- C. It gives the reaction of acetyl ([2.3.1](#)).
- D. It gives the reaction of esters ([2.3.1](#)).

## TESTS

### Appearance of solution

The solution is clear (2.2.1) and colourless (2.2.2, Method II).

Mix 1 mL of the substance to be examined and 15 mL of [water R](#).

### Acidity

To 10 mL of [ethanol \(96 per cent\) R](#) add 0.1 mL of [phenolphthalein solution R](#) and [0.01 M sodium hydroxide](#) until the colour changes to pink. Add 5.5 mL of the substance to be examined and 0.25 mL of [0.02 M sodium hydroxide](#). The solution remains pink for not less than 15 s.

### [Relative density \(2.2.5\)](#)

0.898 to 0.902.

### [Refractive index \(2.2.6\)](#)

1.370 to 1.373.

### Reaction with sulfuric acid

Carefully add 2 mL to 10 mL of [sulfuric acid R](#). After 15 min, the interface between the 2 liquids is not coloured.

### Related substances

Gas chromatography (2.2.28).

*Test solution* The substance to be examined.

*Column:*

- *material:* glass;
- *size:*  $l = 2$  m,  $\varnothing = 2$  mm;
- *stationary phase:* [ethylvinylbenzene-divinylbenzene copolymer R](#) (136-173  $\mu$ m).

*Carrier gas* [nitrogen for chromatography R](#).

*Flow rate* 30 mL/min.

*Temperature:*

	Time (min)	Temperature (°C)
Column	0 - 18.8	90 → 240
	18.8 - 26.8	240
Injection port		240
Detector		240

*Detection* Flame ionisation.

*Injection* 1  $\mu$ L.

*Limit:*

### Residue on evaporation

Maximum 30 ppm.

Evaporate 100.0 g to dryness on a water-bath and dry in an oven at 100-105 °C. The residue weighs not more than 3 mg.

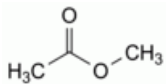
### Water (2.5.12)

Maximum 0.1 per cent, determined on 10.0 mL.

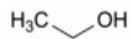
## STORAGE

Protected from light, at a temperature not exceeding 30 °C.

## IMPURITIES



A. methyl ethanoate (methyl acetate),



B. ethanol,



C. methanol.

---

Ph Eur