

**BLACK RADISH
FOR HOMOEOPATHIC PREPARATIONS**

**RAPHANUS SATIVUS NIGER
FOR HOMOEOPATHIC PREPARATIONS**

Raphanus sativus ad praeparationes homoeopathicas

Other Latin name used in homoeopathy: **Raphanus**

DEFINITION

Whole, dried, sliced, grated or crushed root of *Raphanus sativus* var. *niger* (Miller) Kerner.

Content: minimum 1.5 per cent of nitrogen (dried drug).

CHARACTERS

Appearance: extremely hot taste.

IDENTIFICATION

- A. Voluminous root, reaching up to 50 cm in length, extremely thick, fleshy, swollen, grooved, coarse, black outside, white inside and almost hard.
- B. Reduce the root to a powder (355). The powder is yellowish-brown. Examine under a microscope using *chloral hydrate solution R*. The powder shows the following elements: numerous fragments of cellulose parenchyma consisting of either ovoid cells with intercellular airspaces or polyhedral cells without intercellular airspaces; fragments of isolated vessels with punctuated or reticulated marks; scarce fragments of the outer layer consisting of polyhedral cells with dark brown walls.
- C. Thin-layer chromatography (2.2.27).

Test solution. Add 30 mL of *ethanol (60 per cent V/V) R* to 3 g of powdered drug (355). Heat on a water-bath under a reflux condenser for 15 min. Allow to cool. Filter.

Reference solution. Dissolve 10 mg of *procaine hydrochloride R* and 10 mg of *phenazone R* in 25 mL of *ethanol (96 per cent) R*.

Plate: *TLC silica gel plate R (5-40 µm)* [or *TLC silica gel plate R (2-10 µm)*].

Mobile phase: *glacial acetic acid R, water R, propanol R, butanol R (20:20:25:35 V/V/V/V)*.

Application: 50 µL [or 10 µL] as bands.

Development: over a path of 10 cm [or 7 cm].

Drying : in air.

The General Chapters and General Monographs of the European Pharmacopoeia and Preamble of the French Pharmacopoeia apply.

Detection: spray with a 250 g/L solution of *trichloroacetic acid R* in *ethanol (96 per cent)*, then heat at 140 °C for 10 min; after cooling spray with a mixture of equal volumes of a 10 g/L solution of *potassium ferricyanide R* and a 50 g/L solution of *ferric chloride R*. Examine in daylight.

Results: see below the sequence of zones present in the chromatograms obtained with the reference solution and test solution. Furthermore other faint zones may be present in the chromatogram obtained with the test solution.

Top of the plate	
Phenazone: a blue zone -----	A blue zone -----
Procaine hydrochloride: a blue zone -----	A blue zone An intense blue zone -----
Reference solution	Test solution

TESTS

Loss on drying (2.2.32): maximum 14.0 per cent, determined on 1.000 g of powdered drug (355), by drying in an oven at 105 °C for 2 h.

Total ash (2.4.16): maximum 13.0 per cent.

Ash insoluble in hydrochloric acid (2.8.1): maximum 1.0 per cent.

ASSAY

Determine the content of nitrogen after mineralisation with sulfuric acid (2.5.9). Use 0.050 g of powdered drug (355).

STOCK

DEFINITION

Black radish mother tincture is prepared with ethanol (55 per cent V/V) diluted 1/20, using the whole, dried, sliced, grated or crushed root of *Raphanus sativus* var. *niger* (Miller) Kerner.

Content: minimum 0.030 per cent *m/m* of nitrogen.

PRODUCTION

Method 1.1.10 (2371). Drug fragmented into segments about 0.5 cm long. Maceration time: 3-5 weeks.

The General Chapters and General Monographs of the European Pharmacopoeia and Preamble of the French Pharmacopoeia apply.

CHARACTERS

Appearance: brownish-yellow liquid.

Strong and unpleasant characteristic odour.

IDENTIFICATION

Thin-layer chromatography (2.2.27).

Test solution. Mother tincture.

Reference solution. Dissolve 10 mg of *procaine hydrochloride R* and 10 mg of *phenazone R* in 25 mL of *ethanol (96 per cent) R*.

Plate: *TLC silica gel plate R (5-40 µm)* [or *TLC silica gel plate R (2-10 µm)*].

Mobile phase: *glacial acetic acid R, water R, propanol R, butanol R (20:20:25:35 V/V/V/V)*.

Application: 50 µL [or 10 µL] as bands.

Development: over a path of 10 cm [or 7 cm].

Drying : in air.

Detection: spray with a 250 g/L solution of *trichloroacetic acid R* in *ethanol (96 per cent) R*, then heat at 140 °C for 10 min; after cooling spray with a mixture of equal volumes of a 10 g/L solution of *potassium ferricyanide R* and a 50 g/L solution of *ferric chloride R*. Examine in daylight.

Results: see below the sequence of zones present in the chromatograms obtained with the reference solution and test solution. Furthermore other faint zones may be present in the chromatogram obtained with the test solution.

Top of the plate	
Phenazone: a blue zone -----	A blue zone -----
Procaine hydrochloride: a blue zone -----	A blue zone An intense blue zone -----
Reference solution	Test solution

TESTS

Ethanol (2.9.10): 50 per cent V/V to 60 per cent V/V.

Dry residue (2.8.16): minimum 1.0 per cent *m/m*.

ASSAY

Determine the content of nitrogen after mineralisation with sulfuric acid (2.5.9). Use 2.000 g of mother tincture.

The General Chapters and General Monographs of the European Pharmacopoeia and Preamble of the French Pharmacopoeia apply.

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