

## RHODODENDRON FOR HOMOEOPATHIC PREPARATIONS

### RHODODENDRON FERRUGINEUM FOR HOMOEOPATHIC PREPARATIONS

Rhododendron ferrugineum ad praeparationes homoeopathicas

#### DEFINITION

Fresh, flowering, leafy twig of *Rhododendron ferrugineum* L.

#### IDENTIFICATION

- A. Tortuous, ligneous stems ramified from the base. Shortly petioled leaves, axillary and spirally inserted, tough, simple, numerous, mainly gathered at the upper segment of the twigs; elliptical lamina, acute apex with non-ciliated margin, dark green, glossy on the upper side, rust-coloured on the underside. Twig ending in a scaly, floral bud. Pink to red flowers, gathered in quite thick bunches; corolla, inserted on a very short calyx, tubular at the base, largely opening in 5 lobes oval or rounded somewhat uneven; 10 free stamens surrounding a pistil with a thick stigma.
- B. Take a sample of underside epidermis of the leaf. Examine under a microscope, using *chloral hydrate solution R*: epidermis covered with a striated cuticle, composed of cells with sinuous or polygonal cell-walls, anomocytic stomata (2.8.3) with 3-5 subsidiary cells, secretory trichomes and covering trichomes. Secretory trichomes with unicellular foot and ovoid multicellular head, bulb-shaped. Multicellular, stiff covering trichomes with fairly thickened and finely echinulate cell-walls and with pointed apex. Multicellular covering trichomes (4-8 cells) about 400 µm long, lying all oriented towards the tip of the leaf, conspicuous on the lamina margin. Epidermis very often accompanied with spongy parenchyma, containing numerous, small calcium oxalate clousters and secretory vessels with a reddish-brown content, particularly at the ribs.

#### TESTS

**Foreign matter** (2.8.2): maximum 5 per cent.

**Loss on drying** (2.2.32): minimum 35.0 per cent, determined on 5.0 g of finely-cut drug, by drying in an oven at 105 °C for 2 h.

#### STOCK

#### DEFINITION

Rhododendron mother tincture is prepared with *ethanol* (65 per cent V/V), using the fresh, flowering leafy twig of *Rhododendron ferrugineum* L.

*Content*: minimum 0.20 per cent m/m of tannins, expressed as pyrogallol (C<sub>6</sub>H<sub>6</sub>O<sub>3</sub>; M<sub>r</sub> 126.1).

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

## PRODUCTION

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

## CHARACTERS

*Appearance:* greenish-brown liquid.

Resinous odour.

## IDENTIFICATION

Thin-layer chromatography (2.2.27).

*Test solution.* Mother tincture.

*Reference solution.* Dissolve 5 mg of *quercetin dihydrate R* and 5 mg of *chlorogenic acid R* in 20 mL of *ethanol (96 per cent) R*.

*Plate:* TLC silica gel plate R.

*Mobile phase:* water R, methanol R, glacial acetic acid R, methylene chloride R (2:3:8:15 V/V/V/V).

*Application:* 20 µL, as bands.

*Development:* over a path of 10 cm.

*Drying:* in air.

*Detection:* first spray with a 10 g/L solution of *diphenylboric acid aminoethyl ester R* in *methanol R* then with a 50 g/L solution of *macrogol 400 R* in *methanol R*. Allow the plate to dry for about 30 min. Examine in ultraviolet light at 365 nm.

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

Top of the plate	
Quercetin dihydrate: an orange zone	A green zone An orange zone (quercetin dihydrate)
Chlorogenic acid: a greenish-blue zone	Four orange zones A greenish-blue zone (chlorogenic acid)
<b>Reference solution</b>	<b>Test solution</b>

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

**TESTS**

**Ethanol** (2.9.10): 60 per cent V/V to 70 per cent V/V.

**Dry residue** (2.8.16): minimum 1.8 per cent *m/m*.

**ASSAY**

Carry out the determination of tannins in herbal drugs (2.8.14). Use 7.500 g of mother tincture.