

**GIANT REED
FOR HOMOEOPATHIC PREPARATIONS**

**ARUNDO DONAX
FOR HOMOEOPATHIC PREPARATIONS**

Arundo donax ad praeparationes homoeopathicas

DEFINITION

Fresh, underground part of *Arundo donax* L.

CHARACTERS

Macroscopic characters described under identification.

IDENTIFICATION

Creeping rhizome, 3-5 cm thick, with wrinkled epidermis, marked by leaflet scars, yellow and spongy inside. Pale yellow adventive roots, sinuous, slightly ramified.

TESTS

Foreign matter (2.8.2): maximum 5 per cent.

Loss on drying (2.2.32): minimum 55.0 per cent, determined on 5.0 g of finely-cut drug, by drying in an oven at 105 °C for 2 h.

STOCK

DEFINITION

Giant reed mother tincture complies with the requirements of the general technique for the preparation of the mother tincture (see *Homeopathic Preparations (1038)* and French Pharmacopoeia Supplement). The mother tincture is prepared with ethanol (65 per cent V/V), using the fresh, underground part of *Arundo donax* L.

Content: minimum 0.02 per cent *m/m* of total alkaloids, expressed as gramine (C₁₁H₁₄N₂; M_r 174.2).

CHARACTERS

Appearance: yellow liquid.

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

IDENTIFICATION

Thin layer chromatography (2.2.27).

Test solution. Mother tincture.

Reference solution. Dissolve 5 mg of *gramine R* and 5 mg of *cytisine R* in 20 mL of *methanol R*.

Plate: TLC silica gel plate *R*.

Mobile phase: freshly prepared mixture: *concentrated ammonia R*, *2-propanol R*, *ethyl acetate R* (20:35:45 V/V/V).

Application: 40 µL as bands.

Development: over a path of 10 cm.

Drying: in air.

Detection: spray with *potassium iodobismuthate solution R* diluted 10-fold in *dilute hydrochloric acid R1*. Examine in daylight.

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

Top of the plate	
Gramine: an orange zone	An orange zone
Cytisine: an orange zone	
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Reference solution	Test solution

TESTS

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

Dry residue (2.8.16): minimum 1.3 per cent *m/m*.

ASSAY

Evaporate 50.00 g of mother tincture in a flask, under reduced pressure until about 20 mL of residue are obtained. Transfer the residue into a separating funnel and rinse the flask with 5 mL of *water R*. Alkalinise with *dilute ammonia R1*. Extract with successive fractions of 15 mL of *methylene chloride R*. Evaporate a few millilitres of the last organic phase, to dryness, dilute with 0.5 M *sulfuric acid* and check the absence of alkaloids with *potassium tetraiodomercurate solution R*. Dry the combined organic layers over *anhydrous sodium sulfate R*. Filter. Rinse the residue of sodium sulfate with *methylene chloride R*. Evaporate to dryness, under reduced pressure. Dissolve the residue in 10 mL of *glacial acetic acid R* and titrate with 0.01 M *perchloric acid* in presence of

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crystallised violet solution R.

1 mL of 0.01 M perchloric acid corresponds to 1.742 mg of total alkaloids, expressed as gramine (C₁₁H₁₄N₂).

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