

## GUAIAC RESIN

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### SYNONYMS

Guaiac gum, Gum guaiac, Gum guaiacum, Guaiacum; INS No. 314

### DEFINITION

The resin from the wood of *Guajacum officinale* L., or of *Guajacum sanctum* L., (Fam. *Zygophyllaceae*), consisting of approximately 70% alpha- and beta-guaiaconic acids, 10% guaiaretic acid, and 15% guaiac beta-resin and small quantities of guaiac yellow, vanillin, etc.

### DESCRIPTION

Irregular lumps enclosing fragments of vegetable tissues; or large, nearly homogeneous masses and occasionally more or less rounded or ovoid tears; externally, it is brownish black to dusky brown, acquiring a greenish colour on long exposure, the fractured surface having a glassy lustre, the thin pieces being transparent and varying in colour from brown to yellowish orange; the powder is moderate yellow brown, becoming olive brown on exposure to air. It has a mild balsamic odour.

### FUNCTIONAL USES Antioxidant

### CHARACTERISTICS

#### IDENTIFICATION

##### Solubility (Vol. 4)

Insoluble in water; soluble in fats; dissolves readily but incompletely in ethanol, ether, and solutions of alkalis

##### Melting range (Vol. 4)

85 - 90°

##### Colour reactions

Add 1 drop of ferric chloride TS to 5 ml of an ethanolic solution of the sample (1 in 100). A blue colour is produced which gradually changes to green, finally becoming greenish yellow.

A mixture of 5 ml of an ethanolic solution of the sample (1 in 100) and 5 ml of water becomes blue upon shaking with 20 mg of lead peroxide. Filter the solution, and boil a portion of the filtrate. The colour disappears but may be restored by the addition of lead peroxide and shaking. Add a few drops of diluted hydrochloric acid TS to a second portion of the filtrate. The colour is immediately discharged.

#### PURITY

##### Total ash (Vol. 4))

Not more than 5%

##### Acid-insoluble ash (Vol. 4)

Not more than 2%

##### Ethanol-insoluble residue

Not more than 15%

Place 2 g of the sample, finely powdered and accurately weighed, in a dry, tared extraction thimble, and extract it with ethanol in a suitable continuous extraction apparatus for 3 h or until completely extracted. Dry the insoluble

residue in a thimble for 4 h at 105° and weigh. The weight of the residue shall not exceed 300 mg.

Rosin

A 10% solution of the sample in petroleum ether is colourless and when shaken with an equal quantity of a fresh solution of cupric acetate 0.5% is not more green than a similar solution of cupric acetate in petroleum ether.

Lead (Vol. 4)

Not more than 2 mg/kg.

Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, "Instrumental Methods."