

Tannic Acid, natural

Description

There are a number of technical applications for tannic acid, like staining of wood, mordant for dying of cellulose fibers, additive against dye bleaching and corrosion inhibition of ferrous metal objects. As distinctive antioxidant tannic acid is used in dietary supplement and as preservative for food. It has antiviral and antibacterial efficacy. In medicine tannic acid was used during the Second World War as hemostatic and antiseptic agent to treat burns. Tannic acid is a good antioxidant; it protects skin and cells from free radicals. Also the degradation of different enzymes, DNA/RNA, collagen and hyaluronic acid is prevented. The natural tannins also cause a strengthening of the epidermis. Beside this tannic acid has an astringent efficacy, is skin soothing and has antimicrobial effects.

Tannic Acid natural is a pure natural plant product. Tannins can be produced from gallnuts. The gallnuts are brittle and have a waxy shine. They grow on Gall oaks, *Quercus infectoria* Olivier. Tannins are mixtures from glucose esters with gallic acid and 3-galloyl gallic acid. Chemically tannins are polyhydroxy phenols. They are soluble in water, alcohol and acetone and contain enough phenolic ortho-di-hydroxy groups to crosslink macromolecules like proteins, cellulose and pectin.

Efficacy

- acts as an antioxidant
- reduces irritations
- acts as astringent
- reduces itching and allergic reactions
- protects skin cells from environmental damages
- acts soothing

Appearance

light hazel powder

INCI

Tannic Acid

Registration

CAS-No.....1401-55-4

EC-No.....215-753-2

Preservatives / Stabilizers

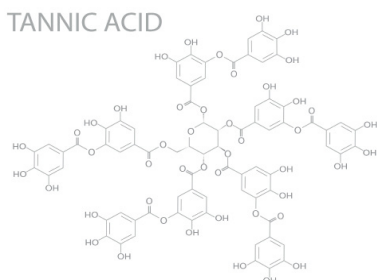
none



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Characteristics

tannin.....>= 97 %
 loss on drying.....<= 7 %
 pH-value (1 % solution).....2.80 - 3.50
 gardner color.....<= 7



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molecular formula.....C₇₆H₅₂O₄₆
 molecular weight.....1701.2 g/mol⁻¹
 synonym:
 gallotannic acid, gallotannin, acidum tannicum

Application

daily cosmetic products
 creams and lotions
 face masks
 gels and ampoules
 body care
 after sun care
 after shave

Application concentration

skin care formulations.....0.05 - 0.3 %

Incorporation

Tannic Acid, powder pure Ph Eur, USP is soluble in water up to 25 % (brown solution). It is soluble in ethanol with limitations (20°C). For better stability in water / ethanol systems and as a chelating agent for iron ions the use of citric acid is recommended. The pH of the solution should be above 4. Tannic acid can form soluble or insoluble complexes with proteins, as well as particular metal complexes (intense blue-black iron(III) complexes).

Toxicology

non hazardous in normal use concentration

Storage & Shelf life

Tannic Acid, natural should be stored in a dry and light protected place at 10 - 25°C.

In closed original containers the shelf life is five years.