



Glucosylrutin

Description

Glucosylrutin (α -glucosylrutin or AGR) is a water-soluble flavonoid derivative obtained through enzymatic glycosylation of natural rutin. Flavonoids are phytoamines with a common chemical structure and a broad range of activities, the most prominent being their radical scavenging ability. Reactive oxygen species (ROS) damage cells by different mechanisms. Designed specifically for cosmetic use, AGR offers exceptional antioxidant performance, improved formulation stability, and increased bioavailability.

One of Glucosylrutin's key strengths is its ability to neutralize singlet oxygen, a highly reactive species generated by UV exposure that contributes significantly to photoaging and cellular damage. UV radiation energy, particularly longwave UVA rays, initiates the formation of highly reactive free radicals (oxidants) in the skin, principally singlet oxygen. These free radicals cause lipid peroxidation, changes in DNA and a key trigger for sun allergies such as Polymorphic Light Eruption (PLE). Clinical and dermatological studies have shown that AGR can significantly reduce the risk of developing symptoms associated with sun allergies. This targeted photoprotective action makes Glucosylrutin a valuable active for sun care, after-sun, anti-aging, and sensitive skin products.

Efficacy

- anti-photoaging
- photoprotective
- protection against sun-induced allergies
- anti-inflammatory
- stabilizes cosmetic formulations
- acts as an antioxidant
- stabilize natural pigment
- improve microcirculation

Appearance

yellow powder

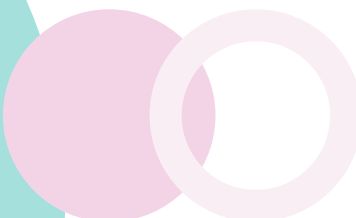
INCI

Glucosylrutin

Registration

CAS-No.....130603-71-3

EC-No.....-/-



Nature needs no cosmetics,
but cosmetics need nature

Glucosylrutin

Preservatives / Stabilizers

none

Application concentration

0.01 – 0.05 %

Characteristics

rutin.....10 – 20 %
monoglucosyl rutin.....70 – 80 %
loss on drying.....<= 8 %
molecular weight.....772.66 g/mol
molecular formula.....C₃₃H₄₀O₂₁
synonym.....4(G)-a-D-glucopyranosylrutin

Incorporation

Glucosylrutin should be solved under stirring in the water phase. It could be dissolved in cold or warm water below 60 °C, ideally within a pH range of 3 – 7. The best pH is <6. Glucosylrutin is also soluble in ethanol.

To prevent interference from metal ions, it is recommended to add an appropriate amount of chelating agent, such as EDTA or phytic acid.

If precipitation occurs during prolonged storage of the aqueous solution, this can be resolved by adding polyols like propanediol or butylene glycol.

Glucosylrutin is capable of effectively binding and neutralizing sulfur-containing odor compounds that typically arise at elevated glutathione concentrations. This odor-absorbing effect has been observed particularly within the pH range of 3 to 6, where complete odor neutralization was achieved.

Application

daily cosmetics
sunscreen
after sun
sensitive skin products

Toxicology

non hazardous in normal use concentration

Storage & Shelf life

Glucosylrutin should be stored in original sealed containers in a dry, well-ventilated and light