



Glucono-delta-Lactone

Glucono-delta-lactone is a skin conditioning agent that can be used for skin or hair care formulations. Thanks to its polyhydroxy acid (PHA) chemical structure, it also has gentle exfoliating properties for the skin and hence constitutes a smooth alternative to alpha-hydroxy acids (AHAs), especially in applications where the irritant side-effect needs to be reduced or eliminated.

Presentation

Glucono-delta-lactone is a neutral cyclic ester of gluconic acid. When added into an aqueous solution, it rapidly dissolves and subsequently slowly hydrolyses to gluconic acid. Consequently, it ensures a progressive and continuous decrease of pH to equilibrium and is used as a slow release acidifier.

Production

Glucono-delta-lactone is produced by fermentation of glucose syrup, which is derived from maize. After an ion exchange step followed by a crystallisation, it is separated from the gluconic acid by centrifugation, the crystals are dried and then sieved to guarantee the desired granulation.

Characteristics

Glucono-delta-lactone is a fine, white crystalline powder and is practically odourless. It is freely soluble in water and is sparingly soluble in ethanol.

INCI name

Gluconolactone

INCI functions

Skin conditioning, chelating

Applications

Deodorants, hair care, oral care, skin care

Functions and typical dosage

	Minimum recommended amount	Maximum recommended amount
■ Skin conditioning	2.0%	5.0%
■ Exfoliating	5.0%	10.0%
■ Chelating	0.2%	0.6%



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