

MAÇÃ  
APPLE

FRULIX

LIQUID FRUITS • EXCLUSIVE TECHNOLOGY

ASSESSA

INNOVATION FOR A GREENER WORLD



**BEING MORE CONCENTRATED, FRULIX APPLE MUST BE USED IN LOWER CONCENTRATIONS THAN THOSE NORMALLY USED WHEN FORMULATING WITH OTHER CONVENTIONAL EXTRACTS.**

## APPLE

### HIGH POTASSIUM AND PECTIN CONTENT

The apple tree is a typical plant found in temperate climate. It's from the family Rosaceae, belonging to the genre Malus. The tree, which reaches up to 10 meters high, has brown bark with smooth peel, and rounded shape. Its fragrant flowers are white or pink. The apple tree is from Central Asia and from regions of the Caucasus and its cultivation spread to large parts of Europe, England and Germany, thanks to the Roman Empire domination. When the Americas were discovered, many hundreds of varieties of apples were known. The settlers took with them seeds and plants of the best varieties, that spread quickly in America. In Brazil, the apple tree is cultivated in Santa Catarina state, mainly due to the more suitable weather.

Apple presents medicinal properties and it produces beneficial effects for the heart, due to its high potassium content, and the presence of pectin, which prevents fat deposition on the arterial wall, preventing arteriosclerosis. Each 100 grams of apple has, on average, 55 calories and 1.5 grams of fibers, plus considerable quantities of vitamins B1 and B2, niacin, tannins and mineral salts, such as phosphorus and iron. It's rich in fruit hydroxy acids, like malic and galacturonic acids.

## TECHONOLGY

**FRULIX MAÇÃ (APPLE)** is obtained through an exclusive biotechnological process that mimics the natural ripening of fruit. Using the fruits' native enzymes that act on the changes that occur in the texture of the fruit during its ripening, **ASSESSA** transforms it's pulp into a crystalline liquid with all the active ingredients of the fruit, in concentrations equivalent to those found in nature.

**PRODUCED WITHOUT THE ADITION OF SOLVENTS**



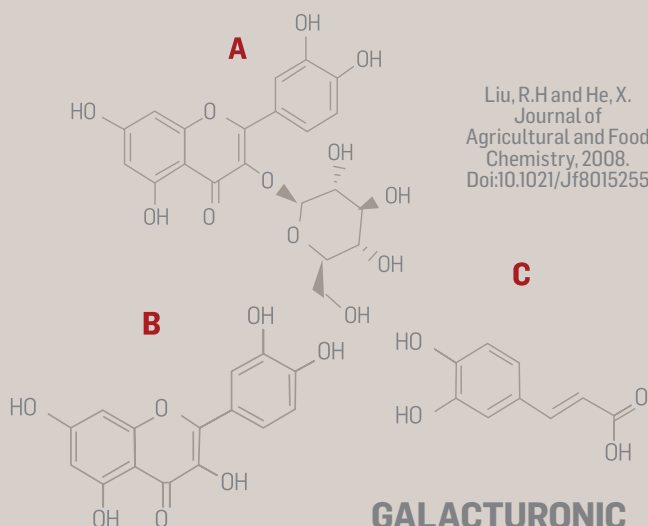
MAÇÃ  
APPLE

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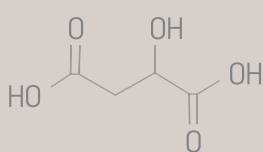
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## COMPOSITION

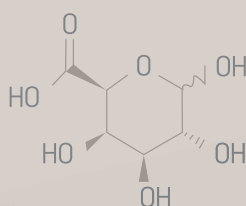
### APPLE FLAVONOIDS



### MALIC ACID



### GALACTURONIC ACID



## USAGE LEVELS

FRULIX MAÇÃ (APPLE) is compatible with the majority of ingredients used in cosmetic formulations for the treatment of skin and hair, and may be incorporated cold, directly into the aqueous phase of the formulas, in accordance with the suggestions for concentration found in the table below. It is stable at temperatures of up to 90 OC, in pH conditions from 4.00 to 11.00.

PRODUCT	(%)
Moisturizing cream	0.3 to 0.8
Nutritive lotion	0.2 to 0.6
Serum	0.5 to 1.0
Hair mask	0.3 to 1.0
Shampoo	0.2 to 0.4
Conditioner	0.2 to 0.4
Leave-on	0.3 to 1.0
Shower gel	0.2 to 0.4

## FUNCTIONS

Vitamins, proteins and bioflavonoids found in FRULIX MAÇÃ (APPLE) contribute to improving the elasticity of the skin, besides presenting antioxidants and dermoprotective activities. FRULIX MAÇÃ (APPLE) is also recommended for haircare formulas such as shampoos and conditioners due to its protective and nutritious properties.

### INCI NAME

Malus Domestica Fruit Extract, Sodium Benzoate and Potassium Sorbate

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