

MORANGO
STRAWBERRY

FRULIX

LIQUID FRUITS • EXCLUSIVE TECHNOLOGY

NATURAL
ORIGIN
99.55%

FRULIX MORANGO (STRAWBERRY)

It is obtained through an exclusive biotechnological process that mimics the fruit's natural ripening. Using the fruits' native enzymes, ASSESSA transforms its pulp into a crystalline liquid with all the active ingredients of the fruit, in concentrations equivalent to those found in nature.

**PRODUCED
WITHOUT
THE ADICTION
OF SOLVENTS**

ASSESSA

INNOVATION FOR A GREENER WORLD



STRAWBERRY

RICH IN VITAMINS, MINERAL SALTS AND BIOFLAVONOIDS

The strawberry plant is the common name given to plants of the *Rosaceae* family of the *Fragaria* genus. Produces a fruit known for its delicate taste and has been cultivated and consumed for centuries, having been cited by Virgil and Pliny in ancient Greece. The plants currently grown are the result of various crossings between varieties of wild plants originally from Europe, and North and South America (*Fragaria vesca*, *F. virginiana* e *F. chiloensis*).

Strawberries are rich in mucilages, sugars, organic acids, flavonoids and mineral salts such as potassium, magnesium, calcium and manganese, and possess hypertensor, protective and astringent properties. Strawberries have been recommended in diets for hypertension and the treatment of arteriosclerosis.



FUNCTIONS

Strawberries are rich in vitamins, moisturizing mucilages, essential sugars, antioxidant bioflavonoids and mineral salts.

FRULIX MORANGO (Strawberry) possesses astringent, nutrient and protective properties and is recommended for haircare products in formulas for treating, cleansing and protecting hair.

FRULIX MORANGO (Strawberry) is particularly recommended for the treatment of chemically-treated and damaged hair and for conditioning and protection in leave-in or rinse-off products. The moisturizing properties of strawberries also mean that FRULIX MORANGO (Strawberry) is recommended for the treatment of skin in products with a nutritive and moisturizing appeal.



AS A MORE CONCENTRATED PRODUCT, **FRULIX MORANGO (STRAWBERRY)** SHOULD BE USED IN SMALLER CONCENTRATIONS THAN THOSE NORMALLY USED WHEN MAKING FORMULAS WITH CONVENTIONAL EXTRACTS.



APPLICATIONS

SKIN CARE PRODUCTS

EMULSIONS, MASKS, SERUMS, MATURE SKIN PRODUCTS, LIQUID AND BAR SOAPS.

HAIR CARE PRODUCTS

SHAMPOOS, CONDITIONERS, HAIR MASKS, LEAVE ON AND SERUMS.

FRULIX IS A SOLVENT FREE PRODUCT

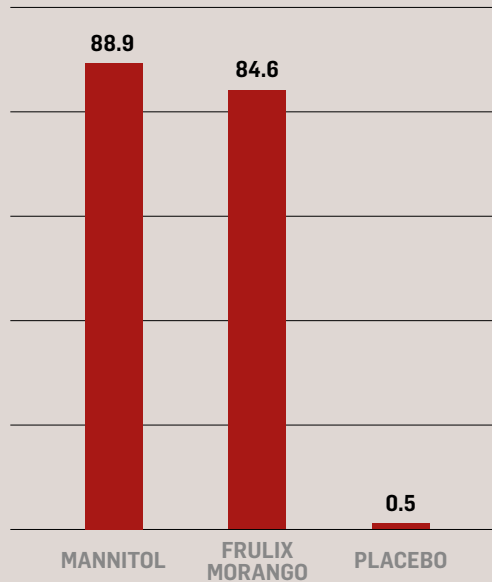
INCI NAME

Fragaria Vesca Fruit Extract, Sodium Benzoate and Potassium Sorbate

ANTIOXIDANT ACTIVITY

The test for antioxidant activity was carried out in accordance with the Fenton protocol, comparing FRULIX MORANGO (Strawberry) with a saline solution (placebo) and with mannitol as a positive control. The graph below shows the antioxidant action compared to the action of the saline solution.

INHIBITION OF DECOMPOSITION OF DEOXY-RIBOSE (FENTON)



FRULIX MORANGO (Strawberry) shows good antioxidant activity when compared to the placebo (84.6%).



USAGE LEVELS

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

PRODUCT	(%)
Moisturizing cream	0.3 to 0.8
Nutritive lotion	0.2 to 0.6
Nutritive cream	0.5 to 1.0
Shiny modelling gel	0.3 to 1.0
Face mask	0.8 to 1.5
Shampoo	0.2 to 0.4
Conditioner	0.2 to 0.4
Mousse	0.3 to 1.0
Shower gel	0.2 to 0.4

FRULIX EXCLUSIVE PROCESS



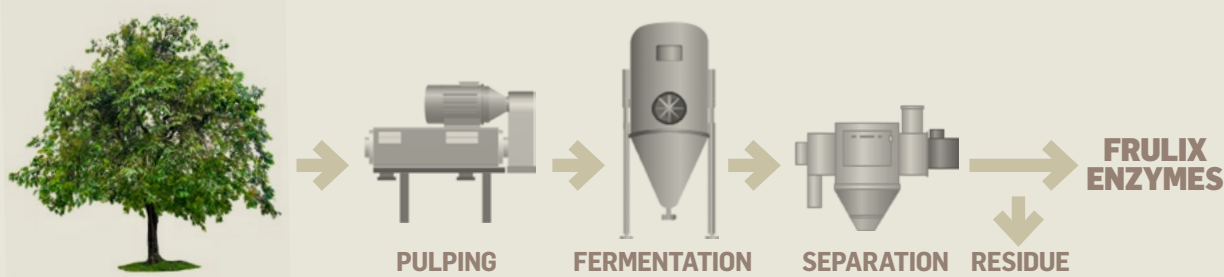
1 THE TECHNOLOGY

FRULIX is obtained through an exclusive biotechnological process that mimics the natural ripening of the fruit. Using the native enzymes that change the texture of the fruit during its ripening, it is possible to transform its pulp into a crystalline liquid.



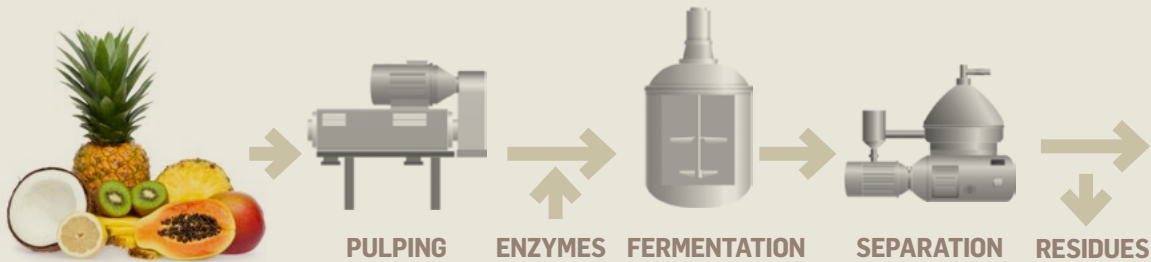
2 PRODUCTION OF ENZYMES

The fruits are harvested, washed and processed into a paste. The slurry is inoculated with microorganisms and the semi-solid mass is placed to ferment. The mixture is separated and the enzymes are removed from the wort.



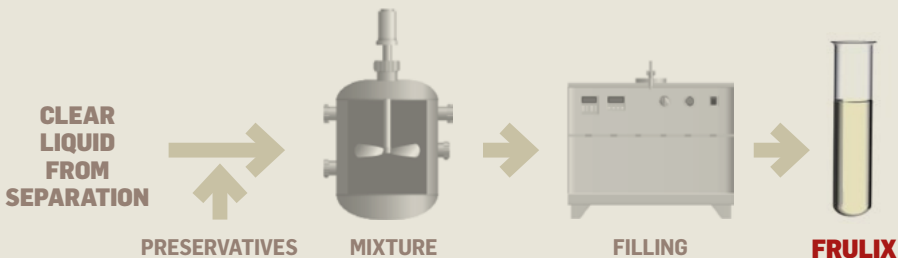
3 PROCESSING THE FRUITS

The fruits are harvested, washed and processed into the pulp. Seeds and bark are discarded. The pulp is inoculated with the Frulix Enzymes. The residues (fibers, solids) are removed and FRULIX is obtained. The product is stabilized and preserved.



4 FRULIX

The clear liquid from the separation step receives preservatives, mixture and filling.



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FRULIX LINE

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AÇAÍ

[Euterpe Oleracea Fruit Extract]



ACEROLA

[Malpighia Glabra Fruit Extract]



APPLE (MAÇÃ)

[Malus Domestica Fruit Extract]



BANANA

[Musa Sapientum Fruit Extract]



**BLUEBERRY
(MIRTILO)**

[Vaccinium Myrtillus Fruit Extract]



CAJÁ

[Spondias Mombin Fruit Extract]



COCOA (CACAU)

[Theobroma Cacao Fruit Extract]



CUPUAÇU

[Theobroma Grandiflorum]



GRAPE

[Vitis Vinifera Fruit Extract]



GUAVA (GOIABA)

[Psidium Guajava Fruit Extract]



JABUTICABA

[Plinia Cauliflora Fruit Extract]



KIWI

[Actinidia Deliciosa Fruit Extract]



LEMON (LIMÃO)

[Citrus Limon Fruit Extract]



LYCHEE (LICHIA)

[Litchi Chinensis Fruit Extract]



MANGO (MANGA)

[Mangifera Indica Fruit Extract]



MELON (MELÃO)

[Cucumis Melo Fruit Extract]



MULBERRY (AMORA)

[Morus Nigra Fruit Extract]



**ORANGE
(LARANJA)**

[Citrus Aurantium Dulcis Juice]



**PAPAYA
(MAMÃO)**

[Carica Papaya Fruit Extract]



**PASSION FRUIT
(MARACUJÁ)**

[Passiflora Edulis Fruit Extract]



**PEACH
(PÊSSEGO)**

[Prunus Persica Fruit Extract]



**PEAR
(PERA)**

[Pyrus Communis Fruit Extract]



**PINEAPPLE
(ABACAXI)**

[Ananas Sativus Fruit Extract]



PITANGA

[Eugenia Uniflora Fruit Extract]



**RASPBERRY
(FRAMBOESA)**

[Rubus Idaeus Fruit Extract]



**SOURSOP
(GRAVIOLA)**

[Annona Muricata Fruit Extract]



**STRAWBERRY
(MORANGO)**

[Fragaria Vesca Fruit Extract]



**WATERMELON
(MELANCIA)**

[Citrullus Lanatus Fruit Extract]



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