

CAJÁ  
CAJA

FRULIX

LIQUID FRUITS • EXCLUSIVE TECHNOLOGY

ASSESSA

INNOVATION FOR A GREENER WORLD



NATURAL  
ORIGIN  
99.55%

**FRULIX  
CAJA**  
IS A HIGHLY  
CONCENTRATED  
INGREDIENT  
PRODUCED  
WITHOUT  
ADDITION OF  
SOLVENTS

## FRULIX CAJÁ

### ANTIOXIDANT FOR SKIN AND HAIR CARES

Caja pulp has a strong yellow color and contains significant amounts of antioxidant compounds such as phenolics, carotenoids, tannins, and vitamin C. Phenolic compounds have antioxidant action on oxidative stress of the skin due to the ability to neutralize free radicals being molecules associated with the prevention of skin damage. Carotenoids are also antioxidants and act in photosensitivity disorders, such as erythema. The pulp also has a significant concentration of Vitamin C. Antioxidant molecules also act to prevent damage to hair fibers. UVA radiation on the hair causes the production of reactive oxygen species (ROS). Studies show that this photo oxidation involves breaking the bonds between carbon and sulfur (CS) of proteins. It also causes oxidation of lipids (important for hydrophobicity and protection of the hair) and degradation of melanin. The mechanical properties of the thread are impaired when the cysteine oxidation to cystic acid occurs. Regarding macrominerals, caja has a high magnesium, potassium, and phosphorus content.



## THE CAJA TREE

With one of the most incredible biodiversity in the world, Brazil has numerous fruit species, including the caja tree that belongs to the Anacardiaceae family, *Spondias* genus. Caja tree is found in the tropical areas of America, Asia, Africa, and in Brazil mainly in the regions North and Northeast. It produces a fruit known as *cajá* or *taperebá* (*Spondias mombin* L) in Brazil; *ciruela amarilla* in Mexico and Ecuador; *jobo* in Central America and *hog plum* or *yellow mombin* in North America.



# FRULIX EXCLUSIVE PROCESS



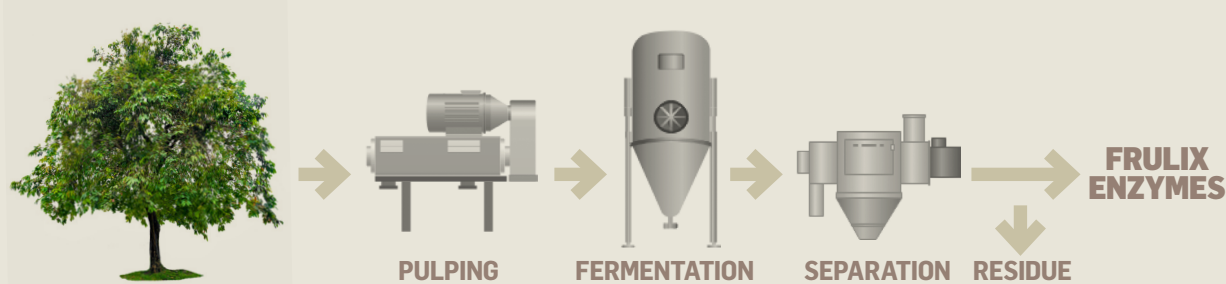
## 1 THE TECHNOLOGY

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.



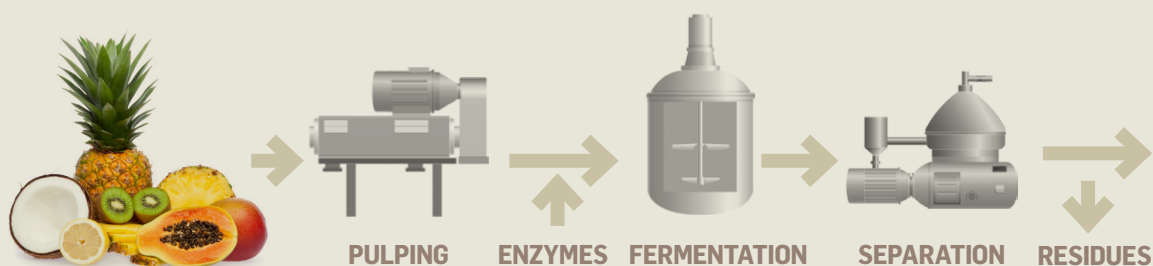
## 2 PRODUCTION OF ENZYMES

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.



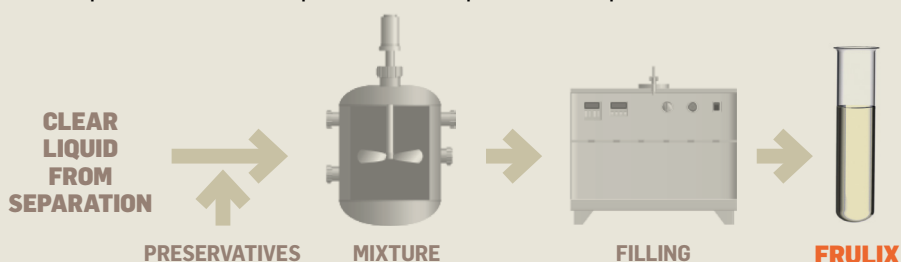
## 3 PROCESSING THE FRUITS

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.





AS A MORE CONCENTRATED PRODUCT, **FRULIX CAJÁ** 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

Spondias Mombin Fruit Extract, Sodium Benzoate and Potassium Sorbate

## FUNCTIONS

The phenolic compounds and carotenoids present in FRULIX CAJÁ contribute to the improvement of the elasticity of the skin and have antioxidant and dermoprotecting activity. FRULIX CAJÁ is also recommended for formulations of hair care products for its protective and nutritive qualities.



## USAGE LEVELS

FRULIX CAJÁ 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 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
Moisturizing lotion	0.2 to 0.6
Night cream	0.5 to 1.0
Nutritive cream	0.5 to 1.0
Shampoo	0.2 to 0.4
Conditioner	0.2 to 0.4
Hair mask	0.3 to 1.0
Leave-on	0.3 to 1.0

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## FRULIX LINE



**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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