

Citróleo Group

In Cosmetics Global 2018





Natural Alpha Bisabolol



Natural Alpha Bisabolol

85% / 95% / 97% / 99%

Alpha Bisabolol produced by Citróleo is a natural product, obtained by fractional distillation of the essential oil from candeia, a Brazilian native tree.

The candeia tree (*Eremanthus erythropappus*) is obtained by implementation of stewardship plan on CITRÓLEO's private forests and on rural producers' areas, which contemplates not only planned removal of trees but also preservation of good trees for sowing and natural regeneration.

CAS number: 23089-26-1 INCI NAME: Bisabolol



Natural Alpha Bisabolol

With total production control, from seedlings cultivation to manufacturing of Alpha Bisabolol, Citróleo guarantees the quality and traceability of the final product by means of the ISO 9001 Certification.

Besides that, the whole supply chain of the natural alpha bisabolol is certified by IBD Certificações, according to NOP/USDA, BR Organic Brazilian law 10.831 (SISORG) accredited by IFOAM (International Marketing), and rule CE 834/2007 (European market).

In 2016, Citróleo receives the FSC® Certification for sustainable stewardship plan of candeia tree, in its area in Baependi – MG

















Natural Alpha Bisabolol

85% / 95% / 99%

Properties:

With anti-inflammatory, anti-irritant, antibacterial and antimycotic properties, the organic and natural alpha bisabolol is used highly used cosmetics and pharmaceutical industries, in a wide variety of formulation for hair, face and body.



Natural Alpha Bisabolol -

Indications: 0.07% to 1%

It is indicate for: Products for sensitive skin, Shaving cream, after shave products lipsticks and oral hygiene (toothpaste, mouthwash), make-up products, Eyeliner, sun protection and after-sun products, oils and children's products, anti-acne products, and deodorants, hand care creams and hair conditioners









Alpha Bisabolol



Always Sensitive



Anti-Ageing Day Fluid



Shaving Gel Eau Thermale Avène Men



Make-Up Removing Wipes



Scalp Soothing Shampoo



Gino McCray Pro-Skin Skin Healthy Glow



Roll-On Cream Deo



Butters

- Cupuaçu
- Murumuru
- Ucuuba



Cupuaçu butter

The cupuaçu butter is extracted from the fruit seeds. The harvest occurs during the rainy season, in a natural way without damaging the environment.

CAS Number: 394 236-97-6

INCI name (CTFA): Theobroma Grandiflorum

Seed Butter



Cupuaçu butter

Properties:

Cupuaçu butter is rich in nutrients, antioxidants and other beneficial substances. Rich in vitamins A and C and important fatty acids, the Cupuaçu butter is an emollient that provides, softness, enabling the recovery of moisture and natural elasticity, especially in dry and mistreated skins and hairs.

Indications:

It is indicated for facial and body moisturizing, rejuvenating, anti-aging formulations, pre and post sun formulations, lipsticks and hair care products.

DOSAGEM / CONCENTRAÇÃO USUAL 1 a 10%



Cupuaçu Butter



Sérum Facial Tenso Active Buona Vita



Facial cream Biomas do Sul



死海矿物浴盐 SCOOPE SILED SEA CLEOUGEN HELANGE MICHAEL SICRUS CONGEST AND STANDS

Cleoqueen Relaxing Mineral Scrub



Cupuaçu Moisturizing Lotion



Lipstick FPS 8 Faces - Natura



Hair Treatment Mask



Murumuru butter

Rich in saturated fatty acids, the main constituent is lauric acid with about 50% of its composition.

In the hair: Murumuru acts as a thermal protector and acts against aggressions Caused by chemicals.

On the skin: it has soothing and nourishing properties, leaving a feeling of Velvety skin

CAS Number: 356065-49-1

INCI name (CTFA): Astrocaryum murumuru

seed butter



Murumuru butter

Properties:

Its main component is the lauric acid. It is a highly nutritive, emollient and moisturizing butter bringing numerous benefits to hair and skin, recovering the brightness and smoothness. For the hair promoting nourishing action and control of volume and frizz.

Indication:

It is suitable for hair care products, conditioner, shampoo, and also moisturizing lotion, bar soap, lipstick.

DOSAGE / USUAL CONCENTRATION

Moisturizing lotion, conditioner: **0.5 to 8%**

Liquid soap and shampoo: 0,5 - 1%

Bar soap, lipstick: 0.5 to 8%



LAB SERIES SKINCARE FOR MEN COOLING SHAVE CREAM Crime de Rasage Rafialchisante SHAVE 14 RL OZ/OZ UQ. 100 ml e

Cream



Conditioner Ekos Murumuru

Murumuru Butter



Soap Muana

BOTANICS

30 ml e 1 US FLO

Super Serum Botanics Age Renewal



Moisturizing Facial Cream





Labial Lip Color - Tom Ford

Butter Blush -Physicians Formula



Ucuuba butter

Ucuuba butter is extracted from the seeds of a native tree in the Amazon region that grows in wetlands, floodplains and flooded forest areas. With great cosmetic importance, it is ideal to replace the animal fat in the production processes.

CAS Number: 356065-37-7

INCI name (CTFA): Virola Surinamensis Seed

Butter



Ucuuba butter

Properties:

Properties: Rich in fatty acids such as lauric and myristic the ucuuba butter is used in cosmetic formulations for continuing hydration, regeneration and tissue healing. With rapid absorption, provides softness, dry touch and prevents dryness. For hair gives intense shine, hydration, nutrition and protects against external aggressors.

Indication:

In the skin, ucuuba butter it is used in cosmetic formulations for continuing hydration. On the Hair, it indicated for formulations which provides protects against external aggressions, such as sun, wind, pollution, sea and pool. Helps in the recovery of damaged hair fiber by chemical processes.



Ucuuba butter

DOSAGE / USUAL CONCENTRATION

Moisturizing products, creamy lotions and butters

for the body: **0,5 a 5%**.

Produtcs for the sensitive skin: **0,5 to 5%** Hair products and conditioner: **1 to 5%**

Capillary masks: **up to 5%**Foot products: **0,5 to 5%**Shaving products: **3 to 5%**

Bar soaps: 5 to 50%



Ucuuba Amazônia Preciosa Hair Mask



Coconut & Ucuuba Hair mask

Ucuúba Butter



Shampoo Coconut & Ucuuba



Conditioner Sapien Women



Conditioner Ucuuba Amazônia Preciosa



Pure Cream Vegetable Bar Soap



Vegetable Oils

- Açai
- Andiroba
- Babaçu
- Buriti
- Pracaxi



Açai oil

Known as the Amazon wine, it is a very significant product to the agribusiness development in the Amazon region. A high fatty acids content oil is extracted from the pulp.

AS Number: 861902-11-6

INCI name (CTFA): Euterpe Oleracea Pulp Oil





Açai oil

Properties:

Açaí is a fruit rich in vitamins, essential fatty acids, anthocyanins and phytosterols. It shows nutritious, moisturizing, whitening and protective properties for the skin against negative actions of external agents. It is effective in hyperpigmentation treatments and skin blemish. With sensory action, giving a velvety texture to the skin.

Indications:

It is indicated in creams for recovery skin treatment, flaccidity, dark circles and skin hyperpigmentation, body oils and products for hair.

DOSAGEM / CONCENTRAÇÃO USUAL

Liquid and bar soaps: 0.1 to 5%

Cream and cream lotions: 0.5 to 10%

Whitening products: 0.1 to 5%





Deodorant Roll-On Açai Energy



Ac+R | Youthful Glow Açaí Rose Serum



Oil Concentrate Hair and Body Ekos Acai

Açai Oil



Alberto Balsam Mulberry & Acai Berry Protective Conditioner



Hand Moisturizing Pulp Ekos Açaí



Conditioner for Dry & Damaged Hair

Andiroba oil

The oil is extracted from the seeds of the fruit, which are sustainably obtained. As an example of environmental preservation, fruits are brought by the rain waters to the edge of the rivers where they are collected and sent for production.

CAS Number: 352458-32-3

INCI name (CTFA): Carapa guiamensis seed oil



Andiroba oil

Properties:

Rich in fatty acids and limonoids, it has anti-inflammatory activity, antiseptic, antiedematogenic, emollient, moisturizing and healing, in addition repellent action of insects. Due to its anti-inflammatory property, the Andiroba oil is a powerful reliever of pain caused by inflammation.

Indications:

It is indicated for skin renewal products, soaps, moisturizers, shampoos, conditioners and other cosmetics. Some botanical compounds have shown repellent properties at low toxicity.

DOSAGE / USUAL CONCENTRATION

As phytocosmetic in creams and moisturizers, shampoos, conditioners, lotions and gels: **2 to 5%** lotions repellents **1 to 5%**



Andiroba oil



ECOBIO AQUA GEL ORGANIC CLEANSING



REPARANTE NATURAL STATES OF THE STATES OF TH

Moisturizing Lotion Andiroba e Copaíba



Exfoliating Oil Ekos Andiroba



Body & Hair Protective Oil SPF 15



Soap of Melaleuca e Andiroba

Shampoo Andiroba Ekos

Babassu oil

The babassu oil is extracted from the fruit kernels. The collection is done in a sustainable manner, so ripe fruits begin to fall to the ground without harming the plant. It is an important source of income for the community you live in northern Brazil.

CAS Number: 91078-92-1

INCI name (CTFA): Orbignya oleífera seed oil



Babassu oil

Properties:

The babassu oil has emulsifying and emollient properties, also healing and moisturizing. In cosmetic preparations can act as oil phase carrier and cell regenerator.

The lauric acid present in the babassu oil, pre-applied to the skin, increasing its permeability for certain active substances.

Indication:

Can be used in products such as creams, lotions, bar soaps, conditioners and bath oils due to its moisturizing action.

DOSAGE / USUAL CONCENTRATION

Creams and cremmy lotions: between 0,5 and 5%

Bar soaps: between 0.5 and 8%

Hair products: between **0,1 and 1%**



F. LUL Volume enhancing Sing wup do A REAL STREET STREET Open O

Blackberry Volume Enhancing Shampoo



Babaçu oil



Hair Restoration Cream



Anti-Cellulite Oil
Birch

Firming
Body Oil with OID
toral storages

Cien

Birch Anti-Cellulite Oil

Instantly Hydrating Body Lotion

Anti-Aging Facial Serum

SURYA FIXATIO

Shampoo

Restorative
Restaurador
Restaurador
Refaurador

Buriti oil

The buriti oil is extracted from the pulp. During the harvest, the ripe fruits are collected from the ground after they have fallen naturally. Represents an important economic and social role, source of income generation for the region.

CAS Number: 394239-67-9

INCI name (CTFA): Mauritia flexuosa Fruit Oil



Buriti oil

Properties:

Rich in pro-vitamin A and high content of carotenoids, it has excellent antioxidant, anti-inflammatory and anti-aging activity, protecting and increasing the firmness and elasticity of the skin. Its antioxidant property, contributes to promoting the production of collagen and elastin.

Indications:

It is suitable for cosmetic formulations, anti-aging, sunscreen and after-sun and after depilatory process, cell renewal creams, and hair care products, it has the property of cell renewal, providing vitality to the skin, turning it soft and silky

DOSING / USUAL CONCENTRATION

Solar and post-solar products: 5%

Creams and lotions, bath oil, soaps: 1.5 to 5%

Anti aging products: 3% to 5%



Buriti oil



Buriti Fruit Body Smoothie



MODERSH MILLAND COSE MAN COSE OF THE COSE

Moonlight Oil Serum



Lotion of Buriti - Ikove



Shampoo Buriti Revitalizante

Lip Protective Pulp FPS 15 Ekos Buriti

Pracaxi oil

Pracaxi oil is extracted from the seeds, without damages to the environment. It is a great nitrogen fixer, representing a large potential for forest regeneration and recovering of degraded areas.

CAS Number: 866620-18-0

INCI name (CTFA): Pentaclethra macroloba seed oil



Pracaxi oil

Properties:

With high concentration of behenic acid (C22:0), it has moisturizing and emollient properties, contributes to the skin elasticity and cell renewal, helping in the prevention of stretch marks and regenerative processes in the skin. For the hair, pracaxi oil creates a hydrophobic layer around the hair fiber, protecting the hair's moisture and controlling the volume increasing the shine and avoiding the fall.

Indication:

It is indicated in products for treating hair damaged, conditioners as well as for dermatologic purposes, aiding in cell renewal and preventing stretch marks.

DOSAGE / USUAL CONCENTRATION

Creams, creamy lotions and gels: **1 to 5%**Conditioners and hair care products: **3 to 7%**

Bar soaps: **3-7%** Makeup: **0.5 to 5%**



Pracaxi oil



Nutri-Regenerating Micellar Shampoo



Conditioner Pracaxi & Andiroba



Vegetable Oil from Pracaxi Hair & Body



Body oil Anti Estrias



Nourishing Beard Grooming Oil



Frizz Dismiss Mask - Redken



Resins

- Breu Branco
- CitroBreu



Breu Branco Resin

Breu Branco Resin (Protium heptaphyllum Resin)
The resin is manually removed from the trunk of the family tree of Burseráceas, without damaging the plant or the environment.

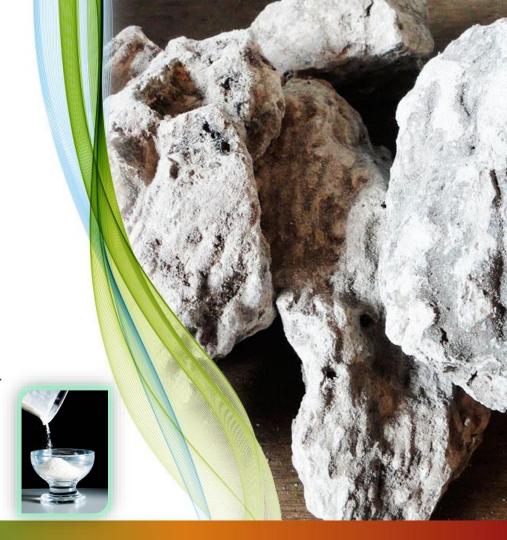
Citróleo developed a purified version of this resin, **called Citrobreu**. Giving a higher quality in the final product.

Properties:

Constituted of tetracyclic triterpenes, such as elemadienolic acids, the resin has anti-inflammatory, antioxidants and antimicrobial properties, contributes for inhibiting the production of nitric oxide and wound healing.

Cas Number: 92704-59-1

INCI name (CTFA): Protium heptaphyllum resin



Breu Branco Resin

Indications:

Due to its pleasant aroma, the resin is widely used in perfumery. Also indicated in cosmetic formulations and therapeutic massage oils, depilatory wax environmental flavoring and insect repellent.

DOSAGE / USUAL CONCENTRATION

Massage oils 1 to 3%

Depilatory waxes: **3 to 5%** repellent products: **from 3%**

Creams / lotions and oils for aromatherapy: 3 to 5%

Flavoring and ambience diffusers: **5 to 10%**

Perfume: 3 to 5%





CitroGreen Active Line

Actives 100% natural with proven efficacy **Dermatologically tested**





CitroGreen Actives line counts with 4 actives ingredients 100% natural and sustainable with proven efficacy through in-human tests (non-animal tests) by renowned laboratories.

AlphaAging

AlphaWhiteness

AlphaComplete

Alphalmprove



AlphaAging

NEW REJUVENATING ACTIVE 100% NATURAL IMMEDIATE LIFTING EFFECT

It is an active rich in fatty acids, carotenoids (provitamin A), in the form of α and β carotene, and tocopherol (vitamin E), which are natural antioxidants.

Also with anti-inflammatory and anti-irritant properties.



AlphaAging

Benefits:

- Promote the immediate tensor effect (lifting)
- 12 hours of extended protection
- Protection against external aggressors and pollution
- 8 hours of skin barrier protection
- Soothing action After-sun and after depilatory
- Acts as a tanning accelerator
- Rich in natural antioxidants
- Neutralizer of free radicals
- Stimulates production of collagen and elastin
- Presenting significant improvement in the wrinkles in 38% only in 30 days
- Firmness and elasticity





AlphaComplete®



AlphaComplete®

ACTIVE MULTIFUNCTIONAL AND 100% NATURAL ANTI-ACNE, ANTI DANDRUFF AND ANTIMICROBIAL

AlphaComplete® The development of was based on the synergy of the combination of natural ingredients with rich antimicrobial properties aimed at reducing inflammation, leading to a reduction of sebum production, cell renewal and combating infection caused by microorganisms, in addition to treatment damage preventing the formation of scars.

Rich in terpinen-4-ol, α -terpineol and antimicrobial ingredients



AlphaComplete® Face



AlphaComplete® Hair



AlphaComplete® Body



3 concentrations to meet the different application forms.

Anti Acne

- Products for preventing and treating acne
- Products for combat the oiliness

Anti Dandruff

- Products for the Scalp Care
- Hair care
- Products dandruff, antisseborreics and to remove the oiliness

Antibacterial

- Bactericide products, antiseptics and fungicides
- Skin care
- Products that fight the itching and inflammation of the skin caused by microorganisms



AlphaComplete[®] Hair

Proven efficacy (In-Vivo tests)

PROVEN EFFICACY AGAINST DANDRUFF

The benefits of AlphaComplete® Hair in hair treatment include eradicating fungal microorganisms, irritation, inflammation and excessive oiliness in order to clean and flush the follicle for that dandruff can be eliminated.

The AlphaComplete Hair was applied in 33 participants (female and male)

Age (18 to 55 years)

Phototype (Fitzpatrick): II to IV

Time of usage: 3 times a week for 21 days

Presence of dandruff



AlphaComplete[®] Body

Proven efficacy (In-Vivo tests)

TIME KILL - Reductional Assessment of Microbial Population REDUCTION IN THE MICROBIAL POPULATION UPPER THAN 99.9%

Test results obtained for the microorganism Pseudomonas aeruginosa ATCC 15442

Contact time (minutes)	Counting survivors	Decimal reduction	Reduction Percentage
T1	5,00 x10 ³	2,90	99,90%
1	5,00 x10 ³	2,90	99,90%
2	1,60 x10 ³	3,39	99,90%
3	$3,00 \times 10^3$	3,12	99,90%
5	4,00 x10 ³	4,00	99,90%

T1: immediate contact time, collected about 30 seconds of the microorganism contact with the sample. Initial count (UFC/mI): 4,0 x10⁶

Test result obtained for the microorganism Staphylococcus aureus ATCC 6538

	-		
Contact time (minutes)	Counting survivors	Decimal reduction	Reduction Percentage
T1	$8,00 \times 10^3$	2,90	99,90%
1	$2,00 \times 10^3$	3,51	99,90%
2	$3,60 \times 10^3$	3,25	99,90%
3	$8,00 \times 10^3$	2,90	99,90%
5	8,00 x10 ³	2,90	99,90%

T1: immediate contact time, collected about 30 seconds of the microorganism contact with the sample. Initial count (UFC/ml): 6,5x10⁶





AlphaWhiteness[®]

100% NATURAL ALTERNATIVE FOR WHITENING SKIN

- Alternative to synthetic whiteners
- Standardization of the skin pigmentation
- Whitening, uniformity and brightness of the skin

The AlphaWhiteness® is a powerful active whitening 100% natural with proven efficacy for whitening, softness, recovery and uniformity of the skin. Exerts its synergistic activity through the double mechanism of action of its natural actives.

It is rich in fatty acids with high concentration of oleic acid, responsible to regulate the skin lipid structure, being an important to recover the skins with changes in its structure.

For: Face, armpits and groins





Alphalmprove



Alphalmprove

NATURALLY AMAZING HAIRS
SOLUTION FOR STRETCH MARKS
MULTIFUNCTIONAL ACTIVE 100% NATURAL

Alphalmprove is an innovative active, 100% natural with proven efficacy for capillary and stretch marks treatment. Its composition is rich in medium chain triglycerides, lauric acid and behenic acid.



Alphalmprove 4D Hair

• Alphalmprove 4D Hair act in deep hair repair, in the cuticle restoration (in/out), in the volume reduction and frizz, maintenance of curls also in the capillary thermoprotection, providing hydration and intense shine. The result is the treatment from the inside out (in/out), repairing and restoring the cuticle.



Alphalmprove Body

The **AlphaImprove Body** forms a film on epidermis, reducing a loss of transepidermal water and maintaining the adequate level of moisture in the stratum corneum, favoring flexibility and skin hydration. In addition, it promotes pleasant sensory and softness.

The **AlphaImprove Body** contributes in the healing process (remodeling), replacing the damaged tissue with a new tissue, stimulating the proliferation of fibroblasts and the extracellular matrix by rebuilding the ruptured fibers and promoting skin elasticity and reconstruction of the dermis.



AlphaAging – AlphaWhiteness – AlphaComplete – AlphaImprove

SAFETY TESTS

DERMATOLOGICAL ASSESSMENT OF THE PRIMARY AND ACCUMULATED DERMAL IRRITABILITY AND SENSITIZATION

It was applied all Actives in around 60 participants female and male

Age (18 to 65 years)

Phototype (Fitzpatrick): I to IV

None of Actives did induced cutaneous irritation and sensitization.

"Dermatologically tested".







CitroTech Line

Must have ingredients





The CitroTech line are innovative products, which combine the richness of Brazilian Biodiversity with the latest generation of technology applied for cosmetics.

This platform has unique features and benefits due to the renewable, sustainable and traceable resources of vegetables oils from North of Brazil.

Citróleo reinvents nature by developing technologies with sustainable resources in creating soft and safe surfactants for a new generation of cosmetic formulation.





34 years, international reliance and acknowledgement

Citróleo offers raw materials 100% natural and sustainable, that add quality and benefits to a wide range of products for personal care, cosmetics, pharmaceuticals and perfumes, for industries in all regions of the world.



SUSTAINABILITY IS OUR INSPIRATION

For Citróleo, working with sustainability means being in harmony with nature, ensuring the well being of the planet and the future of the new generations.



INCI: Behenamidopropyl Dimethylamine

Appearance: Solid Paste

Activity: 90% - 98%

CAS Number: 60270-33-9

% Use: 0,5 – 2,0%



Performance Benefits

Features	Benefits		
Derived from Pracaxi Oil	Sustainable chain allowing the traceability		
High substantivity to the Hair	Substantive to hair while being compatible with a wide range of ingredients including non-ionic and cationic surfactants promoting very good volume and frizz reduction, improving wet and dry combing.		
Conditioning Performance	The high content of behenic (C22) and lignoceric (24) acid naturally present in pracaxi oil promotes the softness effect and returns the life to hair damaged by chemical processes.		
Excelent Performance Product	Conditioning effect due to the formation of a hydrophobic layer around the fiber of the yarns resulting in a shine and silkiness hair.		

PRODUCT: PRACAXI OIL			
Controlled Items	Specifications		
Appearance	Viscous liquid		
Color	Pale yellow to yellow		
Scent	Characteristic		
Specific Gravity *	0,890 a/to 0,920		
Solubility in Ethanol Water insoluble			
Refractive Index* 1,44000 a/to 1,47000			
FFA (in oleic) Max 5,0 %			
Iodine Index	55 a/to 75 (cg I2/100g)		
Peroxide index Máx 15 meq O2/kg			
Saponification Index	165 a/to 195 (mg KOH/g)		
Unsaponifiable matter ²	Max 1,5%		
Oleic Acid (% m/m)	47 a/to 53 %		
Linoleic Acid (% m/m)	9 a/to 13 %		
Arachidic acid ¹ (%m/m)	Min 0,9%		
Behenic Acid ¹ (% m/m)	15 a/to 20 %		
Lignoceric Acid (% m/m)	9 a/to 13 %		
Molecular formula	$C_{18} H_{34} O_2$		
* Temperature 25 °C			

Green Behenic (BAPDMA) must be neutralized by an organic acid to become water soluble and act as a conditioning agent it is multi-functional ingredient for use in hair care applications including:

- Hair Conditioners
- Hair Masks
- Tangled hair
- Cleansing conditioners
- Conditioning shampoos and cleansers
- Leave On Products for Hair



Hair Conditioner Rinse Off Comparative Study:

Behenamidopropyl Dimethylamine vs Stearamidopropyl Dimethylamine

TRADE NAME	INCI NAME	SUPPLIER	%w/w #1	%w/w #2
PHASE A				
	Water		Up to 100	Up to 100
Glicerina Bidestilada USP	Glycerin	DPV	3,00	3,00
Glydant Liquid Plus	DMDM Hydantoin (and) Iodopropynyl Butylcarbamate	Lonza	0,20	0,20
	Dissodium EDTA		0,05	0,05
Green Behenic (BAPDMA)	Behenamidopropyl Dimethylamine	CITRÓLEO	1,00	#
	Steramidopropyl Dimethylamine		#	1,00
PHASE B				
	Latic Acid P.A	DPV	0,30	0,30
PHASE C				
Álcool Cetoestearílico	Cetearyl Alcohol	DPV	4,50	4,50
Emol IPM	Isopropyl Myristate	DPV	2,00	2,00
Green CAP-B	Cocamidopropyl Betaine	CITRÓLEO	1,50	1,50
PHASE D				
Ácido Cítrico Anidro	Citric Acid	DPV	pH 4,0 – 5,0	pH 4,0 – 5,0

Procedure:

Mix the ingredients of phase A and homogenizes. Heat to 70 - 80°C.

Add phase B to phase A, under stirring and temperature until complete solubilization of surfactant.

Mix the ingredients of phase C under temperature ($70 - 80^{\circ}$ C).

Add phase A/B to phase C, at once, under temperature and strong stirring. Stop heating. If necessary, add phase D to correct pH.

Properties:

pH: #1 = 4,82 #2 = 4,57

Volunteer test: Shampoo & Rinse-off Conditioner

Stearamidopropyl Dimethylamine vs. Behenamidopropyl Dimethylamine



SAPDMA - #2

Volunteer B

GREEN BEHENIC (BAPDMA) - #1

42.9% of volunteers considered the product **EXCELLENT** in:

- Slipping the product in wet hair
- Combability in wet, humid and dry hair
- Softness humid touch
- **Shine** in dry Hair

Methodology:

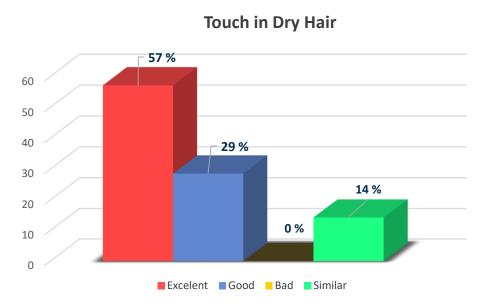
- Apply 8g of shampoo: on both side of the head;
- Massage for 1.5 min. and rinse it off;
- Apply 4g of conditioner:
 #1 on right side apply GREEN BEHENIC (BAPDMA)
 #2 on left side apply SAPDMA
- Massage for 1.5 min. and rinse it off;
- Wait until dry naturally and evaluate.

Volunteer test: Shampoo & Rinse-off Conditioner

Stearamidopropyl Dimethylamine vs. Behenamidopropyl Dimethylamine

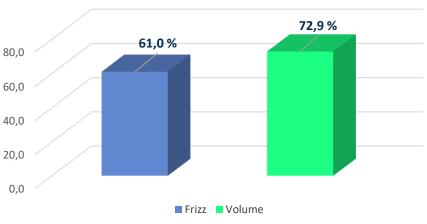
COSMETIC APRECIABILITY

Results based on a survey of 25 volunteers



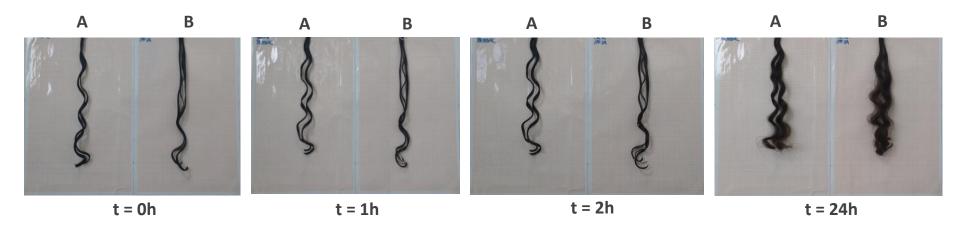
Anti-Frizz Action and Volume Reduction

% of volunteers who found the product Good/Excelent



Comparative test: Shampoo & Rinse-off Conditioner

Stearamidopropyl Dimethylamine vs. Behenamidopropyl Dimethylamine



Methodology:

- Apply 8g of shampoo: on both side of the head;
- Massage for 1.5 min. and rinse it off;
- Apply 4g of conditioner:

A: GREEN BEHENIC (BAPDMA)

B: SAPDMA

- Massage for 1.5 min. and rinse it off;
- Wait until dry naturally and evaluate.

Green Behenic (BAPDMA) @1% promoted:

CURL DEFINITION

DEFRIZZ

LONG LASTING



Green CAPB-B (Babaçu Betaine)

INCI: Cocamidopropyl Betaine

Appearance: Yellowish Liquid

Activity: 30%

CAS Number: 61789-40-0

% of Use:

Hair care products: 1,0 - 5,0%

Skin care products: 1,0 - 8,0%



Green CAPB-B (Babassu Betaine)

Performance Benefits

Features	Benefits		
Derived from Babaçu Oil, Crude Oil keeping the original purity and nutrients	Sustainable chain allowing the traceability.		
Co-surfactant	Cocoamidopropyl betaine is an excellent co-surfactant, compatible with surfactants anionic, cationic and non-ionic properties, favoring its use in shampoos, for bath and all cleansing cosmetics products.		
Conditioning Performance	The nitrogenous group of the Babaçu Betaine is charged positively, and adsorbed by the hair reducing the static charge and improving the combability.		
Better Thickening Efficiency compared with ordinary Betaine from Palm	Due Babaçu Oil chain composion, Green CAPB-B provides better thickening to th formulation, reducing the required amount of electrolytes for viscosity adjustmen		
Foam	The objective test foam evaluation showed stability, increase and creaminess of foam shampoo.		

Green CAPB-B (Babaçu Betaine)

Green CAPB-B (Babaçu Betaine) non-ionic vegetal surfactant is multi-functional ingredient for use in personal care applications including:

- Shampoos
- Conditionings
- Liquid and Bards Soaps
- Cleansing Skin Care Products



Clear Conditioning Shampoo Comparative Study:

Cocamidopropyl Betaine from Babaçu Oil vs Cocamidopropyl Betaine from Palm Oil

TRADE NAME	INCI NAME	SUPPLIER	%w/w #1	%w/w #2
	PHASE A			
	Water		Up to 100	Up to 100
Glydant Liquid Plus	DMDM Hydantoin (and) Iodopropynyl Butylcarbamate	Lonza	0,20	0,20
	PHASE B			
LESS 27	Sodium Laureth 2 Sulfate	DPV	10,00	10,00
Green CAPB-B	Cocamidopropyl Betaine – Babaçu oil Derivate	CITRÓLEO	1,00	#
Green CAPB-B	Cocamidopropyl Betaine – Palm oil Derivate	CITRÓLEO	#	1,00
Amid DC 90	Cocamide DEA	DPV	0,50	0,50
PHASE C				
Ácido Cítrico Anidro	Citric Acid	DPV	pH 5,5 – 6,0	pH 5,5 – 6,0
	PHASE D			
	Sodium Chloride		q.s	

Procedure:

Mix the ingredients of phase A and homogenizes.

Add the ingredients of phase B, one by one, and gently homogenizes.

Add phase C to correct pH.

Add phase D to correct the viscosity.

Properties:

pH: #1 = 5,83

#2 = 5,92

Clear Conditioning Shampoo

featuring Green CAPB-B (Babaçu Betaine) vs Betaine Palm Oil

Objective Test – Foam Evaluation Properties

IMMEDIATE



Shampoo with Green CAPB-B



Shampoo without Green CAPB-B

Green CAPB-B @1% promotes

Reduction of 19% of viscosity ingredients in the formulation compared to Betaine Palm oil.

AFTER 5 MINUTES



More creamy foam*

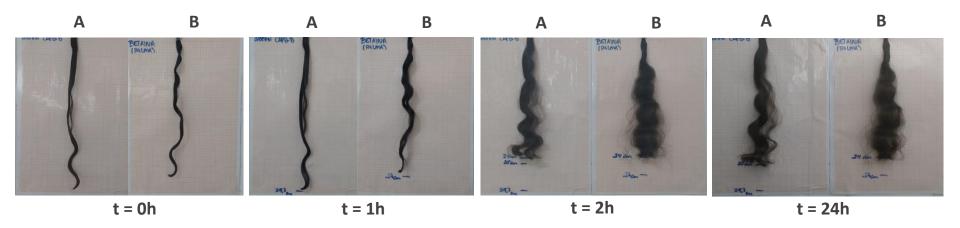
More stable foam*

Foam: 200g of a 3% solution of shampootest, stir for 1 minute.

*Compared to control without the product.

Clear Conditioning Shampoo

featuring Green CAPB-B (Babaçu Betaine) vs Betaine Palm Oil



A – 3g of Shampoo with Green CAPB-B B – 3g of Shampoo without Green CAPB-B

Massage for 1.5 min. and rinse it off; Wait until dry naturally and evaluate

Green CAPB-B @1% promotes

LONG LASTING

CURL DEFINITION

DEFRIZZ

STRAIGHTER LOOK

VOLUME REDUCTION

Liquid Hand Soap

TRADE NAME	INCI NAME	SUPPLIER	%w/w		
PHASE A					
	Water		Up to 100		
Glydant Liquid Plus	DMDM Hydantoin (and) Iodopropynyl Butylcarbamate	Lonza	0,20		
	Dissodium EDTA		0,05		
Glicerina Bidestilada USP	Glycerin	DPV	4,00		
PHASE B					
LESS 27	Sodium Laureth 2 Sulfate	DPV	2,00		
Green CAPB-B	Cocamidopropyl Betaine	CITRÓLEO	5,00		
Dehyton G	Sodium Cocoamphoacetate	BASF	2,00		
Amid DC 90	Cocamide DEA	DPV	2,00		
PHASE C					
Ácido Cítrico Anidro	Citric Acid	DPV	pH 5,5 – 6,5		
PHASE D					
	Sodium Chloride		q.s		

Procedure:

Mix the ingredients of phase A and homogenizes.

Add the ingredients of phase B to phase A, one by one, under gentle homogenization.

Add phase C to correct the pH.

Add phase D to correct viscosity.

Properties:

pH = 7,38

More than products, values that connect brazilian biodiversity with well-being.



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AlphaVelvety: natural and striking sensory

Within the expectations, bringing the naturalness of the Amazon as background, Citróleo Group is proud to present to the market its newest vegetable active, the Alpha-Velvety. This butter, which integrates the 100% natural and pure actives line of the company, the CitroGreen line, combines several powerful concepts in a single product: it is multifunctional, acts on the mouth, skin and hair and is effective since the first application. Its sensory is striking and, of course, it is completely natural.

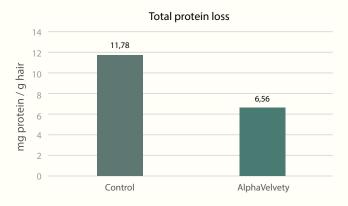
With a differentiated composition, AlphaVelvety was developed exclusively to provide a new solution to cosmetic formulators around the world. The AlphaVelvety in contact with the skin is quickly absorbed and, due to its unique fatty chain, can be applied directly on the entire body, ensuring a feeling of relaxation and well-being, providing a pleasant softness and emolience to the formulations.

Thus, following the line of minimalism, AlphaVelvety enters on the composition of the products as a complete active for face, body and hair, reducing the need to add many ingredients in the same formula.

Broad potencial of action: multifuntional active for body, face and hair

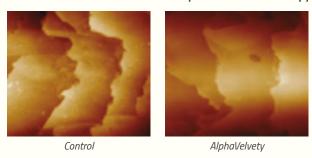
AlphaVelvety, when used in capillary formulations, can restores the hair, since its biocompounds, an unprecedented balance between oleic, lauric and myristic fatty acids, guarantee complete absorption by the hair fiber. This ensures the effectiveness against damages due to exposure to UVA light protective (efficacy in 44% against protein loss).

Quantification of Total Protein Loss in Hair After Treatment with Cosmetic Products



The active also increases the softness of the hair in 35%, without interfering in the natural movement, leaving no residue or heavy aspect, improving its roughness.

Instrumental Evaluation of Hair Softness by Atomic Force Microscopy



The restoration of the hair fiber is achieved naturally, as it has reduced the cuticular damage, reversing structural damage caused by many different factors of daily life, at maximum and deep hydration.

The vegetal active is instantly absorbed by the skin, providing a matte effect (effective in 60.61% of the participants), a trend launched a few years ago, that until nowadays gains more followers. The velvety effect of AlphaVelvety is more than efficacy, it is sensory, activating the bodily senses with the potential that only nature can provide.

Instrumental Evaluation of Hair Softness by Atomic Force Microscopy





v17 t0

V17 t15

The dry touch is felt in the first application, wrapping the surface of the epidermis in a protective film, promoting the feeling of healthiness, with a composition that mimics the skin, due to its great affinity for it. AlphaVelvety has a unique regenerative power, correcting imperfections and improving skin texture, including the lips (proven efficacy in 58.8% of the cases tested).

Visual improvement of the lips texture/morphology by image analysis





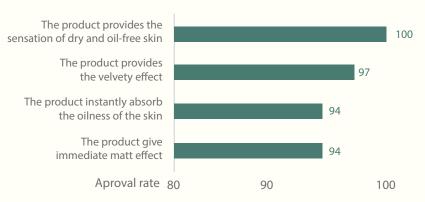
v17 t0

V17 t15

As important as the effectiveness of the product, a decisive factor for its purchase, defined by an increasingly interested consumer, is the origin value of the ingredients. The AlphaVelvety consists of crude oils and vegetable butters, obtained in a sustainable way and with total traceability.

Cosmetic Appreciability

Purchase indicator



In this way, we ask for permission to enter nature, the main source of inspiration for our work, and we select the best natural raw materials, focusing on the development of products that are really good for humans. Enough of chemicals and other devastating products that end human health, and consequently our biodiversity.







Citróleo Group

AlphaShield

The New Antibact Protection 100% Natural and Green Solution

Citróleo Group

Our Pillars



QUALITY

We produce raw materials with the highest quality standards according to the required standards in order to guarantee 100% pure and 100% natural products without the addition of synthetic or chemical products.



REGULAR SUPPLY WITH SUSTAINABILITY

Traceability and control of the entire supply chain

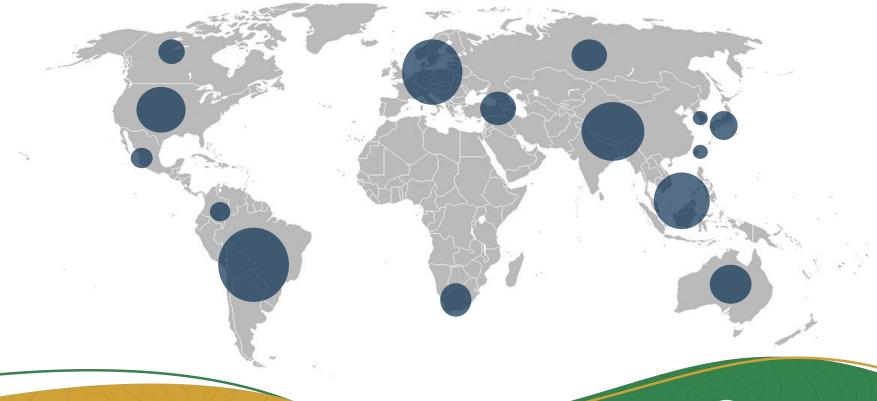


FAIR PRICE FOR ALL PRODUCTIVE CHAIN

We are community partners, contribute to the generation of income for families and pay the fair price for the raw material, always respecting the harvesting period and seed maturity.



Citróleo Group World





CONSUMER MARKET TRENDS 2020

- Change in consumer behavior, concern for the label, search for natural, Boom of Well Being - Rituals of turning on and off
- Attitudes that are compatible with the environment and that bring real benefits during use
- Local ingredients, exotic/holistic stories escape, travel
- Globalization through local solutions support for producers
- Produce **less**, but **better** products
- Cleaning, Hygiene and Health Transparency is the most important (Clean Beauty)
- Immunity Boosters Focus on Microbioma and Exposome
- · Products that act as a shield, safety mask



Fonte: BeautyStreams





CitroGreen Actives line counts with 6 actives ingredients 100% natural and sustainable with proven efficacy through in-human tests (non-aninal tests) by renowned laboratories.

AlphaShield AlphaVelvety AlphaAging AlphaComplete® AlphaImprove AlphaWhiteness®



INCI Name: Melaleuca alternifolia leaf oil, Bisabolol

New ingredient for a New era

Protecting the skin, the greatest shield for human health has never been more important!

- \checkmark **EXCLUSIVE TECHNOLOGY:** *synergy* between components obtained from candeia oil, exclusively, with α-bisabolol
- ✓ **BOTANICAL COMPLEX:** selected essential oils, certified and unique from Citróleo, from *sustainable & fair-trade* sources
- ✓ HEALTHIER PLANET: 100% Natural & Safe super concentrated antibact



Performance Benefits for Clean & Care

Features	Benefits	
Germicidal Agent	Act quickly eliminating 99.99% of germs (harmful gram positive and negative bacteria and fungi) on hand/body. Some compounds exhibit antiviral activity.	
Antisseptic Potential	Degrades or inhibits the proliferation of microorganisms for unrestricted indication.	
Calming Effect	Hypoallergenic and less irritating to skin compared to conventional antimicrobial actives.	
Prevents Dryness & Sensitization Biobased active, provides a hydration feeling. It is anti-irritant and blocks inflammatory processes.		
Protects against Microbial Contamination	n Regulates and controls the bacterial flora of the skin and from external agents.	
Dermopurifying	Rescues skin health, promoting moisturizing and controlling moisture loss.	



Performance Benefits for Clean & Care/Skin Friendly Hand Sanitizer

Dermopurifying Rescues skin health, promoting moisturizing and controlling moisture loss.





Hand Care Sanitizer & Moisturizer









A new antibact for frontier protection Dermo-Skin Care

Halal Compliant
Listed: EUA (TSCA), Canada (DSL),
UE (CosIng), Austrália (AICS),
China (IECSC), Filipinas (PICCS),
Nova Zelândia (NZIOC), Taiwan (NECI)



Safe, even in products without rinsing



New proposal to conventional bactericides, such as triclosan (banned - USA), for a safe, effective and ecological approach



Stable over a wide pH and temperature range, including systems with alcohol



When solubilized in aqueous systems, the active also acts as a natural preservative



Lipophilic nature **inhibits itching**, **decreases adverse reactions** caused by disinfection and excessive hand sanitization

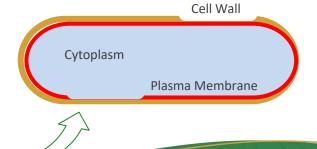


AlphaShieldMechanisms of Action

Control of viruses, fungi and bacteria through its exclusive action related to the chemical complexity of its oils

- Among other natural products: α , β , γ -bisabolene, with anti-inflammatory, antiviral, analgesic and antiproliferative action.
- Potentiated by **Tea Tree Oil** and **Citrue Bisabolol**, which due to the wide spectrum of properties, is used from skin care products to hospital products.
- It has non-cytotoxic antimicrobial activity, preserving the balance of the beneficial microbiome of natural skin protection.

Deactivation of bacterial homeostasis, through the compromise of microbial cell **barrier**, preventing the survival of it:





AlphaShield TIME KILL - Reductional Assessment of Microbial Population

Test results obtained for the microorganism Staphylococcus aureus - ATCC 6538

Test result obtained for the microorganism Trichophyton mentagrophytes – ATCC 9533

_					- I /		
Contact time (minutes)	Counting survivors	Decimal reduction	Reduction Percentage	Contact time (minutes)	Counting survivors	Decimal reduction	Reduction Percentage
TI	1,6x10 ⁴	2,49	99%	TI	5,69	99,9999%	<10
1	4,0x10 ²	4,09	99,99%	1	5,69	99,9999%	<10
2	5,1x10 ⁴	1,99	99%	2	5,69	99,9999%	<10
3	1,1x10 ⁵	1,65	99%	3	5,69	99,9999%	<10
5	5,1x10 ³	2,99	99,9%	5	5,69	99,9999%	<10
30	3,0x10 ²	4,22	99,99%	30	5,69	99,9999%	<10
60	4,1x104	2,08	99%	60	5,69	99,9999%	<10
90	5,3x10 ³	2,97	99,9%	90	5,69	99,9999%	<10

T1: immediate contact time, collected about 30 seconds of the microorganism contact with the sample. Initial count (UFC/ml): 5x10⁵



Challenge Test

- ✓ **NATURAL PRESERVATIVE:** allowing the cosmetic product to use the "preservative free" claim
- ✓ Based on data from the Brazilian Pharmacopeia (2019): reductions in the growth of viable bacteria, molds and yeasts used; reduction in growth from the 14th day, followed by continuous reduction until the end of the test with 28 days. ALPHASHIELD as a preservative system is effective for these microorganisms.









✓ Formulation Test: Polysorbate 20, PEG-40 Hydrogenated Castor Oil, AlphaShield (0,5%), Aqua



SULFATE-FREE CLEANING FOAM - First Step

A protected and clean skin must be hydrated. The foam is enriched with ALPHASHIELD, a biodegradable and sustainable active. It 100% natural, hypoallergenic, with anti-irritant activity and without contraindications. It doesn't induce dryness and is suitable to replace Triclosan. This sulfate-free cleaning foam has the synergy of GREEN CAPB-B and GREEN COCOAMPHOACETATE B, able to deep cleaning without leaving the skin dry and preventing the rebound effect. Made with 100% natural Amazonian ingredients, these cleaning agents remove residues, transform into a creamy foam for the pleasure of gentle cleaning. The natural BABAÇU OIL, whose almond is obtained by coconut breakers in Northeast Brazil, leaves the skin extra soft, without irritation or dryness.

PHASE	INGREDIENT	% w/w
Α	Aqua	q.s.p
Α	Edta Na ₂	0.05
Α	Glycerin	2
В	GREEN CAPB-B (Cocamidopropyl betaine)	25
В	GREEN COCOAMPHOACETATE – B (Sodium babassuamphoacetate)	3
С	ALPHASHIELD (Melaleuca alternifolia leaf oil, Bisabolol)	1
С	BABAÇU OIL (Orbignya oleifera seed oil)	2
D	Citric Acid	q.s

Procedure:

Homogenize the ingredients of phase A;
Homogenize the ingredients of phase B;
Homogenize the ingredients of phase B;
Homogenize the ingredients of phase C;

Pour the ingredients of phase C under phase B; Gradually pour phase A under the mixture of phase B+C; Adjust the pH.



HAND CARE SANITIZER & MOISTURIZER - Second Step

This plant-based formulation helps to combat contact contamination, with dosed-alcohol 70%. The formulation still counts with **ALPHASHIELD**, a complex with natural essential oils that eliminates 99.99% bacteria in 60 seconds. With antiseptic action, the multifunctional active keeps hands clean, sanitized, away from microorganisms with a soft and moisturizing barrier. With also the power of **MACADAMIA OIL** perfumes, restores and balances the necessary mechanisms for hand protection. It keeps the luxury touch without residue or tack.

PHASE	INGREDIENT	% w/w		
Α	Alcohol 75°GL	q.s.p		
Α	Glycerin	5		
Α	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	0.2		
Α	NaOH @0.1%	q.s		
В	ALPHASHIELD	2		
ь	(Melaleuca alternifolia leaf oil, Bisabolol)	-		
В	MACADAMIA OIL	1		
ь	(Macadamia integrifolia seed oil)	1		
В	Caprylic/Capric Triglyceride	1		
С	Sodium Acrylate/Sodium Acryloyldimethyl Taurate Copolymer	1		

Properties:

Viscous Gel

pH: 7

Procedure:

Homogenize the ingredients of Phase A.

Wait hydrate the polymer and neutralize before proceeding with the next step.

Homogenize the ingredients of phase B.

Stir the phase B under phase A high shear until a homogeneous emulsion forms.

Add the phase C and stir until the gel forms.

If necessary, adjust the pH.



DEFENSE & LIPID REPLACEMENT CREAM – Third Step

Keeping the skin safe and delivering the replacement of the lipid barrier after successive washes and application of alcohol. The extra defense comes with ALPHASHIELD, vegetable complex specially added to act against pathogenic microorganisms, regulating the skin microbiome in a pathway 100% natural and non-irritating. With the natural and pure CUPUAÇU BUTTER, the hands gain extra nutrition and protection against water loss. The Amazonian BABAÇU OIL guarantees fast absorption for a soft and delicate skin, with prolonged action. Together this Eco Ingredients hydrate and soothe the skin, smoothing external aggressions. They balance skin natural defense mechanisms and prevent dermatitis and irritation.

PHASE	INGREDIENT	% w/w
Α	Aqua	q.s.p.
Α	Glycerin	5
Α	Edta Na ₂	0.05
В	Cetearyl Olivate (and) Sorbitan Olivate	5
В	ALPHASHIELD (Melaleuca alternifolia leaf oil, Bisabolol)	0.5
В	CUPUAÇU BUTTER (Theobroma grandiflorum seed butter)	0.5
В	BABAÇU OIL (Orbignya oleifera seed oil)	2
С	Dibutyl Adipate (and) Pentaerythrityl Tetra-di-t-butyl Hydroxyhydrocinnamate	0.5
С	Preservative	q.s

Properties:

pH: 7

White Creamy Emulsion

Procedure:

Heat the phase A (75-80°C);

Heat the phase B (75-80°C);

Pour phase B under phase A under high stirring.

Wait for the emulsion to reach 40 ° C before adding phase C

Adjust the pH



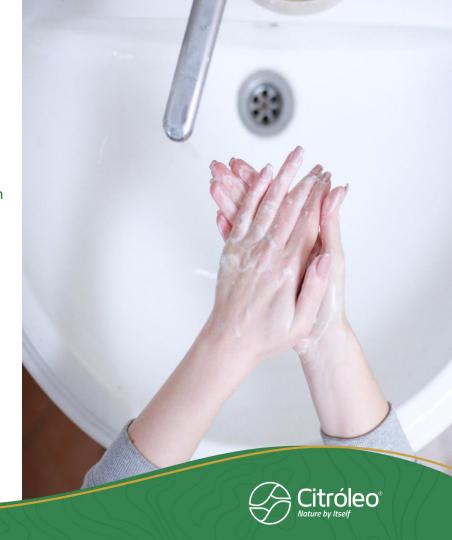
Recomendations

Recommended concentration: 0.5 to 5.0%.

Benefit-Cost

The synergy between the **EXCLUSIVE** ingredients of this raw material guarantees a lower concentration of actives in the final formulation, with the same effectiveness!

- · Phytomedicine, phytosanitizing
- Gel alcohol, hand sanitizer and surfaces booster
- Topical antiseptics
- Body lotions, wet wipes
- Make up
- Soaps and liquid foams, bar soaps
- Daily use shampoos
- Body deodorants
- Oral Hygiene Products (mouthwash, gels and mouth creams)
- Preservative systems: 0.5 to 1.0% pre-dispersed in solubilizers and applied to the aqueous phase







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