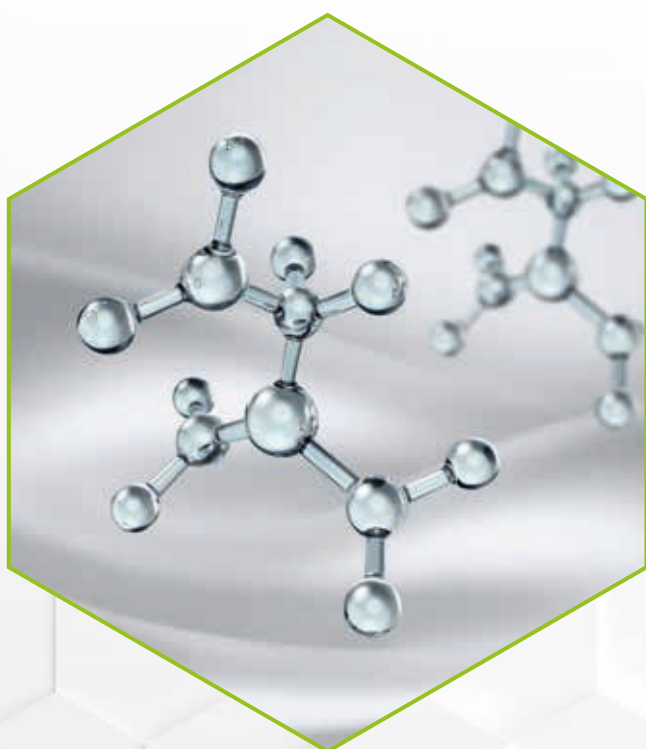




**RES
PHARMA**
INNOVATIVE INGREDIENTS

MORIPURE[®]

SERICIN RE-BOOTING SUSTAINABILITY



MORIPURE®

Focuses on recovery of sericin through a circular sustainability process. Our novel bio-engineering process allows us to use pure sericin obtained from by-products of the silk industry for the formulation of three innovative functional ingredients. Moripure® offers sustainable silk protein in three different compositions with the benefit of pure sericin which can be used to develop sustainable texture.

Three different options for three different cosmetic applications:

MORIPURE® POWDER SD: 100% silk powder with texturizing properties, perfect for makeup application.

INCI: *Sericin*

MORIPURE® SERICIN: viscous gel, glycerine based, formulated without preservatives. Add moisture and enhance rheology to skincare formulations.

INCI: *Glycerin, Water, Sericin*

MORIPURE® SILK AQUA: sustainable recovery of degumming water.

INCI: *Silk Aqua, Pentylene Glycol*

MORIPURE® ERI SILK : 100% silk powder, obtained from Eri silk industries degumming water. COSMOS Approved.

INCI: *Sericin*

Sericin is one of the widest used cosmetic ingredients, thanks to its intrinsic moisturizing and filming properties.

Sericin is a protein produced by the silkworms, *Bombyx mori*, a holometabolous insect of the Lepidoptera order and *Samia Cynthia Ricini*, known also as “the ailanthus silkmoth”. In the textile industry, sericin is largely removed during the degumming process.

RESPHARMA Innovative Ingredients embraced a “0 waste” approach transforming by-products of the textile processes into functional cosmetic ingredients.

BENEFITS

- 💧 100% RECYCLED
- 💧 SUSTAINABLE PURE SERICIN
- 💧 THROUGH SUSTAINABLE DEVELOPMENT; DECREASE USE IN USE OF ENERGY AND POLLUTANTS

APPLICATION

- 💧 BEAUTY ASIANIFICATION
- 💧 NATURAL FILM SHIELD ON THE SKIN
- 💧 DERMO COSMETICS & CICA-CREAM
- 💧 HAIR & BEARD DAILY CARE
- 💧 IMPROVES MAKE UP ADHESION

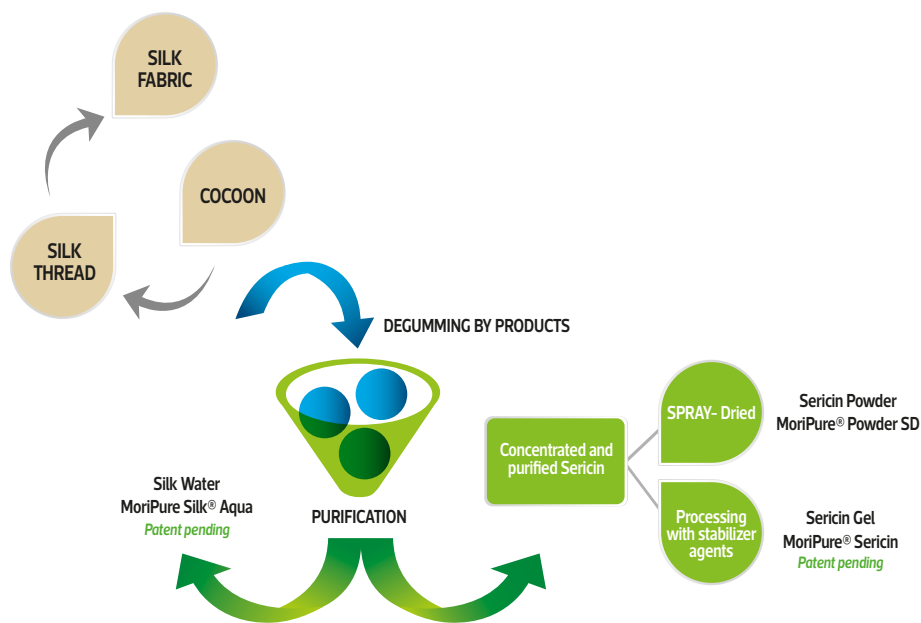
RECOVERY PROCESS

TRANSFORMING WASTE - SUSTAINABLE THINKING

Silkworms produce a great amount of sericin, in the silk thread, used whilst preparing the cocoon, the structure that provides the ideal conditions for its metamorphosis.

The textile industry produces large quantities of by-products during silk preparation. Among these, sericin represents the most noble part of silk, which goes unused. RESPHARMA Innovative Ingredients has identified a sustainable process transforming by products and re-cycling materials embracing a “0 waste” approach. Innovation also consists in re-use and sustainable economy, transforming by-products of the textile processes into functional prime cosmetic ingredients.

The recycling process is depicted below:



OUR MORIPURE® SELECTION IS THE RESULT OF A SUSTAINABLE RECOVERY OF SILK BY-PRODUCTS SELECTED AND APPROPRIATELY DIFFERENTIATED TO OFFER A COMPLETE RANGE OF PRODUCTS SUITABLE FOR EACH COSMETIC APPLICATION

Degumming by-products are a solution rich in sericin. The solution undergoes an ultrafiltration process, at 15,000 kg/mol. Following this first step, two different fractions with different average molecular weights are produced.

The first fraction is a sericin gel, with a 5% dry residue, and an average molecular weight >15000 Da. Starting from the sericin gel, through two different treatments, Moripure® Sericin and Moripure® Powder SD are derived.

MORIPURE® SERICIN is obtained, using stabilizers. The viscoelastic gel has a shear thinning rheologic behaviour and contains 2,5% of pure Sericin (dry extract) with an average molecular weight >15000 Da.

MORIPURE® POWDER SD and **MORIPURE® ERI SILK SD**, 100% pure Sericin are obtained through a spray dried.

The second fraction of purification is simply a watery solution containing about 0,1-0,3% of Sericin with average molecular weight <15000 Da.

MORIPURE® SILK WATER, the best expression of a sustainable recovery process.

A real example of circular economy, inspired by living systems: every waste becomes a resource for the successive production steps. Recovering and Reusing products and materials; development product design considering future materials. Do not take, make and dispose... but make/remake, use/reuse economy.

COSMETIC FORMULA

SILK: A PRECIOUS BEAUTY RE-SOURCE WITH TESTED EFFICACY

The silk extracts of great value in the beauty industry consist mainly of two proteins: sericin and fibroin, consisting of 18 amino acids. Cutaneous keratin has a chemical structure like Fibroin; The MoriPure[®] ingredients bind to it and treat the skin like silk. Sericine Powder protects skin by prolonging its hydration, avoiding TEWL, on the other hand it regenerates damaged skin tissue.

Efficacy *in vitro* test have shown an anti-tyrosinase and anti-elastase effect which in turn lead to enlightening appearance and anti-ageing activity on the skin. Ongoing in vivo studies aim to confirm preliminary *in vitro* data: MoriPure[®] Sericin should improve the appearance, grain and tone of the skin and protect it from pollution.

SILK AQUAMOIST ESSENCE

Spray a silk veil to your face: moisturize, refresh and fix your make up.

#silktofix #skinfood #aquamoist-u-pure

19PS30 WATERY ESSENCE				
	INCI Name	%	Activity	Supplier
Phase A				
MORIPURE [®] SERICIN	Glycerin, Aqua(Water), Sericin	1.50	Rebooting Sustainable Sericin	RES PHARMA INDUSTRIALE
	Aqua	20.00	Solvent	
Phase B				
	Butylene Glycol	10.40	Humectant	
	1,2-Hexanediol	1.00	Humectant	
RESPLANTA [®] PHYTO OLIVE	Olive Oil Polyglyceryl-4 Esters	1.00	COSMOS RSPO Water Soluble Oil	RES PHARMA INDUSTRIALE
RESPLANTA [®] PHYTO SAFFLOWER	Safflower Seed Oil Polyglyceryl-4 Esters	1.00	COSMOS RSPO Water Soluble Oil	RES PHARMA INDUSTRIALE
	Carrageenan (Iota)	0.05	Rheological Additive	
Phase C				
	Aqua	45.05	Solvent	
MORIPURE [®] SILK AQUA	Silk Aqua(Water), Pentylene Glycol	20.00	Rebooting Sustainable Silk Water	RES PHARMA INDUSTRIALE

MANUFACTURING PROCEDURE

Mix components of Phase A and heat to 60-65°C till complete dispersion.
Mix components of Phase B till homogeneous.
Mix components of Phase C till complete homogeneous.
Add Phase A to Phase C and mix.
Add Phase A+C to Phase B while mixing gently till complete solubilization.
Adjust pH (4.70 – 5.20).

PHYSICAL-CHEMICAL DATA

Appearance:
From Limpid to Translucent Solution.
pH: 4.70 – 5.20.

COSMETIC FORMULA

FITNESS FOR YOUR SKIN

Apply to skin using circular motion and movements to pamper your skin.
Surprising enhanced feel: nourishment and relaxation on your skin.

#yogaforskin
#feedyourmind
#zenexperience

19PS42 COZYSERUM				
	INCI Name	%	Activity	Supplier
Phase A				
	Aqua	75.00	Solvent	
MORIPURE® SERICIN	Glycerin, Aqua(Water), Sericin	2.00	Rebooting Sustainable Sericin	RES PHARMA INDUSTRIALE
RESASSOL® DN	Diglycerin	1.00	Humectant	RES PHARMA INDUSTRIALE
	Carrageenan	0.40	Rheological Additive	
Phase B				
EMULPHARMA® COREOSOME	Cetearyl Alcohol, Glyceryl Stearate, Sorbitan Stearate, Cetearyl Glucoside	5.00	COSMOS Sensory Emulsifier	RES PHARMA INDUSTRIALE
RESOMA®SERIPURE	Glycerin, Caprylic/Capric Triglyceride, Aqua(Water), Lecithin, Sericin	3.00	Liposome - Like Active	
RESAPHIN® GTS	Triisostearin	3.00	Emollient	RES PHARMA INDUSTRIALE
RESPLANTA® PHYTO POMEGRANATE	Punica Granatum Seed Oil Polyglyceryl-4 Esters	1.00	COSMOS RSPO Water Soluble Vegetable Oil	RES PHARMA INDUSTRIALE
	Behenyl Alcohol	1.50	Lipophilic Consistency Factor	
	Theobroma Cocoa Butter	0.50	Vegetable Butter	
Phase C				
	Propanediol	3.00	Humectant	
	Pentylene Glycol	2.00	Humectant	
	1,2-Hexanediol	1.00	Humectant	
	Caprylyl Glycol, Ethylhexylglycerin	1.00	Preservative Non- Preservative	
Phase D				
PANTROFINA SKIN 360	Diglycerin, Pinus Pinaster Extract	0.50	COSMOS Universal Active	RES PHARMA INDUSTRIALE
Phase E				
	Parfum	0.10	Fragrance	

MANUFACTURING PROCEDURE

Mix ingredients of Phase A and heat to 75°C.
Mix ingredients of Phase B and heat to 75°C.
Add Phase B to Phase A and homogenize for 20 min.
Add Phase C and Phase D at 45°C and homogenize for 10 min.
Add Phase E and homogenize for 5 min.
Adjust pH (4.70 - 5.20).
Remove air.

PHYSICAL-CHEMICAL DATA

Appearance:
Semi-Viscous Emulsion.
pH: 4.70 – 5.20.
STABILITY Tested.

The production of sericin is the **resilience strategy** that the silkworms put in place to maintain themselves and their cocoon in **healthy** conditions.
We can improve the **skin resilience** by increasing its defence from external aggression.

HOW TO USE

HOW TO USE MORIPURE®

MORIPURE® POWDER SD

Recommended Use:

Level 1 – 5%.

Incorporation

Emulsions incorporation: add to water or oil phase before heating and emulsification process.

Viscous Gel

Homogenize while adding to the gel.

Physical Appearance

Beige powder.

MORIPURE® SERICIN

Recommended Use:

Level 2– 10%.

Incorporation

Emulsions: add to water phase before heating and emulsification process.

Water-based product: heat up to 60–65°C in 5–10 times its weight of water. Then can be cooled down and add to the rest of formulation. (better if mixed with co-solvent: glycols, humectant) maintain pH between 5 and 9.

Physical Appearance

Viscoelastic gel.

MORIPURE® ERI SILK SD **COSMOS Approved**

Recommended Use:

Level 1 – 5%.

Incorporation

Emulsions incorporation: add to water or oil phase before heating and emulsification process.

Viscous Gel

Homogenize while adding to the gel.

Physical Appearance

Beige powder.

MORIPURE® SILK AQUA

Recommended Use:

As Active solvent ingredient.

Incorporation

Add to water phase or use as solvent for water phase maintain pH between 5 and 9.

Physical Appearance

Clear colourless liquid.

**RES
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INNOVATIVE INGREDIENTS

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