

AWARDS 2023

Demande de participation

Nom de la société: *GreenTech*

Numéro de stand: *99*

Prénom: *Jean-Yves*

Nom: *BERTHON*

Position: *CEO*

Adresse de la société: *Biopôle Clermont-Limagne*

Code Postal: *63360*

Ville: *Saint-Beauzire*

Dans quelle catégorie souhaitez-vous concourir ? (une fiche d'inscription par catégorie)

- Meilleure Innovation
- Meilleur Ingrédient
- Meilleure Formulation

Merci d'ajouter une page descriptive de votre innovation ou ingrédient ou formulation à ce formulaire qui devra être validée avant d'entrer dans la compétition.

Merci de retourner ce formulaire à
stephaniemoission@step-exhibitions.com

Si vous souhaitez envoyer des échantillons, veuillez les étiqueter et les envoyer à:

Stéphanie Moission
33 route de Royan
17600 St Romain de benet



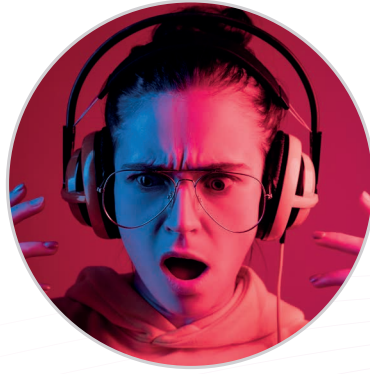
CHRONO-DETOX

FEEL GOOD ENERGIZER

CIRCALYS®



SKIN ISSUE STUDIED BY GREENTECH



FATIGUE INDUCED BY MODERN LIFESTYLES

Since few decades, our societies have evolved fastly. We have never been exposed to so much disruption to our natural rhythm (high workplace demands, long duty periods, night-shift work, social and societal demands, and insufficient sleep), resulting in fatigue, affecting up to 45% of the population (Caldwell *et al.*, 2019; Galland-Decker *et al.*, 2019).

This modern off-beat life impacts the body and cell metronome: the circadian clock, which influences almost all biological processes and accurately coordinates these processes with a period of approximately 24 h in the absence of external timing signals (Wolff *et al.*, 2020). Its disruption affects skin homeostasis and neuroendocrine function (De Assis *et al.*, 2019; Pernodet *et al.*, 2019), leading to a tired skin with visible facial signs of fatigue: eye bags, dark circles, marked wrinkles, dull tone, and uncomfortable skin. Mood is also impacted: less stress control, less happiness, more irritability (Caldwell *et al.*, 2019).

Aware of such lifestyle repercussions and inspired by Ayurveda, GREENTECH R&D identified andrographolide as potent biological molecule to counteract circadian disruption, and designed CIRCALYS®, a chrono-detox feel good energizing active ingredient through a neuroendocrine and psychobiological approaches. CIRCALYS® is a natural cosmetic active ingredient dedicated to reduce the impacts on skin and mood of fatigue induced by modern off-beat life.

ACTIONS

MODULATES

SKIN
CIRCADIAN
RHYTHMS

REDUCES

SIGNS OF FATIGUE
DARK CIRCLES,
EYE BAGS &
WRINKLES

BOOSTS

SKIN VITALITY,
RADIANCE &
COMFORT

RELAXES

FEEL-GOOD
«YOGA-LIKE»
EFFECT

MOLECULES

- **ANDROGRAPHOLIDE** : $\geq 10\%$ / DRY MATTER
IDENTIFIED BY GREENTECH TO COUNTERACT CIRCADIAN DISRUPTION

SOURCING

GREEN CHIRETTA ANDROGRAPHIS PANICULATA
NATIVE FROM INDIA, WIDELY DISTRIBUTED IN ASIA

MAJOR DETOXIFYING PLANT
IN AYURVEDIC MEDICINE.
(Janghel *et al.*, 2019)



COSMETIC USES

- ENERGIZING/ANTI-FATIGUE OR DETOX SKIN CARE
- URBAN PROTECTION DAILY SKIN CARE
- NIGHT REGENERATING SKIN CARE
- HAPPY COSMETICS - HOLISTIC FACE OR BODY CARE
- RELAXING FACE OR BODY CARE, FOR SPA OR HOME

GREENTECH INNOVATION

> **CONCEPT OF CHRONOBIOLOGY**

MODULATES SKIN CIRCADIAN CLOCK & REDUCES SIGNS OF FATIGUE

> **BRAIN-SKIN AXIS MODULATION**

BOOSTS OXYTOCIN, ENDOCANNABINOID & ENDORPHIN PATHWAYS

> **PSYCHOBIOLOGICAL APPROACH**

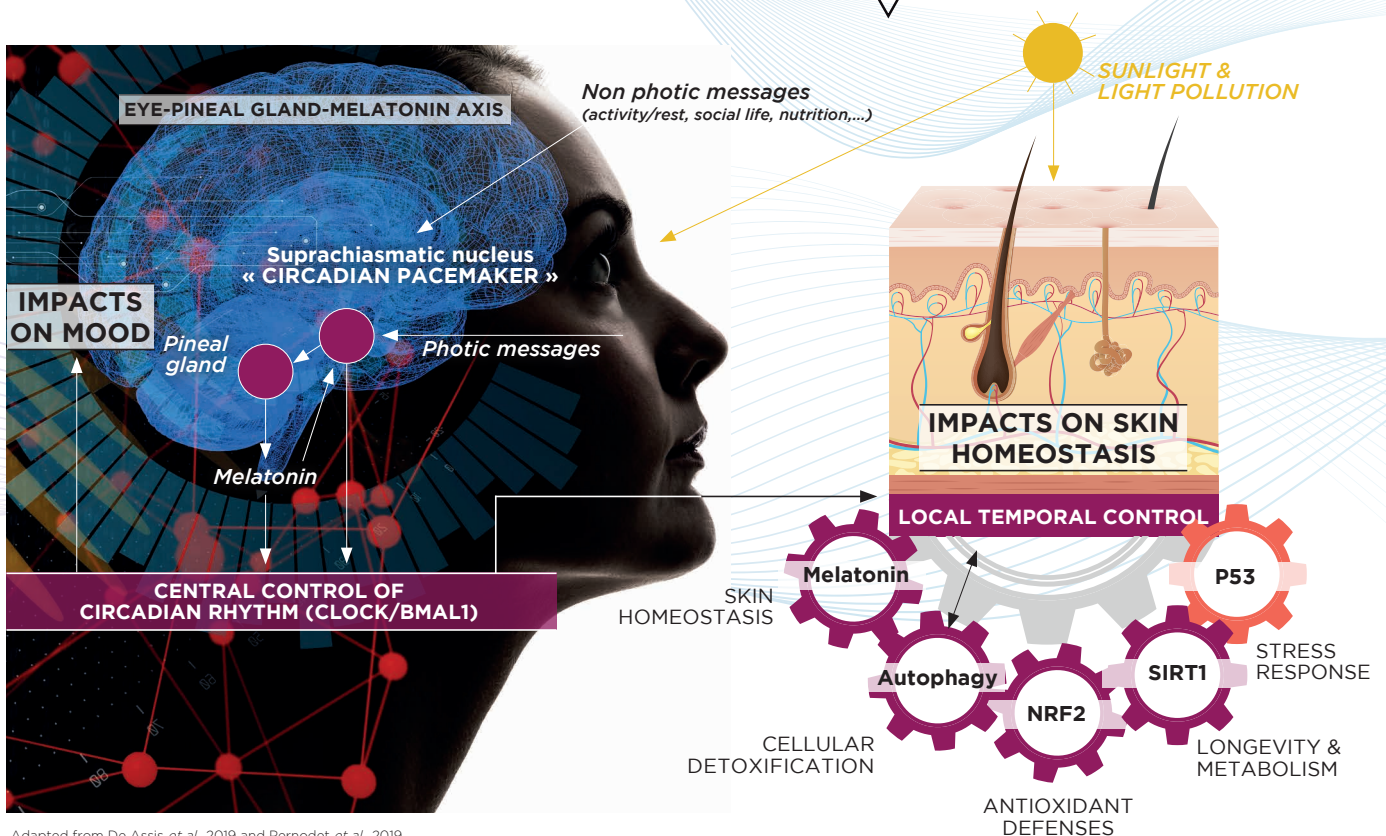
MODULATES STRESS & BOOSTS WELL-BEING « FEEL-GOOD ENERGIZING » EFFECT

FATIGUE IMPACTS & CIRCADIAN CLOCK

Modern off-beat life induces disruption of human natural rhythm, leading to fatigue, impacting both skin and mood (Caldwell *et al.*, 2019). The biological explanation of this disruption relies on a disruption of the circadian clock, which is a cell-intrinsic transcriptional network that is present in most, if not all, cells of the body, coordinating the organism's physiology with the day-night cycle (Panda *et al.*, 2002). The molecular clock is driven by the transcriptional activity of two factors: CLOCK and BMAL1, whose expression oscillates depending on regulations by other factors including PER and CRY (Wolff *et al.*, 2020).

Circadian clock is also positively (⚙️) or negatively (⚙️) influenced by modulators, involved in key cellular pathways.

MODERN LIFESTYLES = SOURCE OF DISRUPTION



Adapted from De Assis *et al.*, 2019 and Pernodet *et al.*, 2019

Recent evidences suggest that there is a bidirectional relationship between circadian clock and autophagy (Kalfalah *et al.*, 2016). GREENTECH R&D identified andrographolide as a natural autophagy inducer and modulator of brain-skin axis through cannabinoid receptor, and thus a potent candidate to modulate skin circadian rhythms and reduce the impact of circadian disruption leading to skin fatigue.

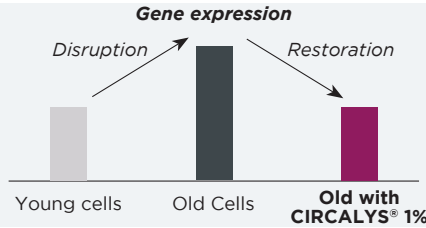
PROVEN EFFICACY

IN VITRO & EX VIVO ANALYSIS

• CIRCALYS® MODULATES SKIN CIRCADIAN CLOCK

1. RESTORES CLOCK GENE EXPRESSION PROFILE

(CLOCK, CRY1 & PER2)



Tests on old keratinocytes with CIRCALYS® 1% vs untreated old & young keratinocytes. RT-qPCR.

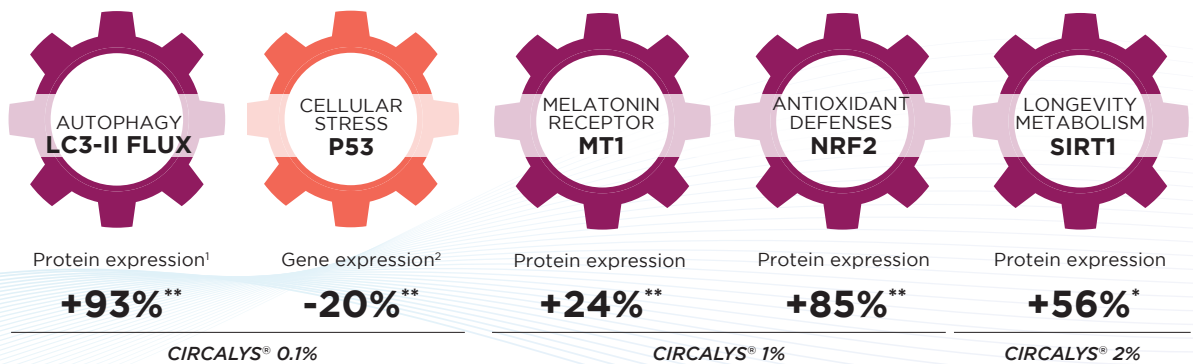
2. ACTS ON CIRCADIAN MODULATORS & KEY PATHWAYS

IN VITRO

On « old » keratinocytes

EX VIVO

On epidermis



**p<0.01 vs « Old » NHEK control

« Old » NHEK from old donor (51 yo) +/- CIRCALYS® 0.1%. 1. Western blot. 2. RT-qPCR. R

*p<0.05, **p<0.01 vs placebo

Skin explants, CIRCALYS® 1% (Nrf2) or 2% (MT1, SIRT1), or placebo, during 5 days. Immunolabelling at day 6.

• CIRCALYS® REVITALIZES & PROTECTS SKIN

CELL LONGEVITY : KLOTHO	+33%*
SKIN HOMEOSTASIS : HIF-1 α	+89%**
DNA DAMAGES : 8-OHdG	-51%**

Skin explants, CIRCALYS® 1%, or placebo, during 5 days. Immunolabelling at day 6, quantification in epidermis.

*p<0.05, **p<0.01 vs placebo

• CIRCALYS® BOOSTS BRAIN-SKIN AXIS-RELATED PATHWAYS

♥ OXYTOCIN

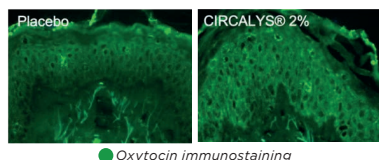
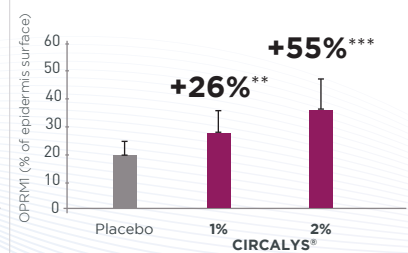
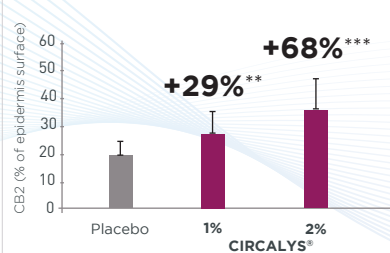
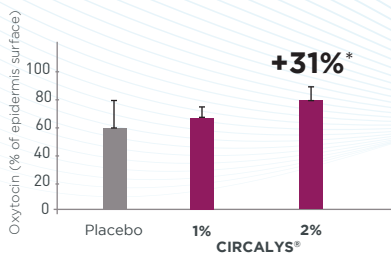
Related to positive emotions and skin aging prevention.

↑ Level - ↓ Skin stress (Cho et al., 2019)

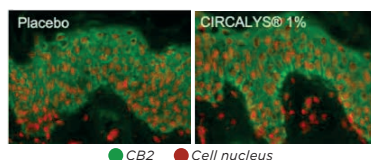
😊 ENDOCANNABINOID

Stress & mood modulators, related to skin homeostasis and anti-inflammatory pathways (Lafaye et al., 2019; Agapito et al., 2010)

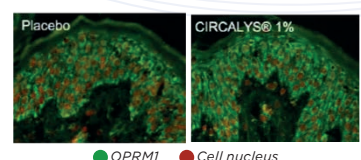
☺ ENDORPHIN



● Oxytocin immunostaining



● CB2 ● Cell nucleus



● OPRM1 ● Cell nucleus

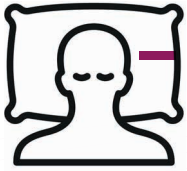
Skin explants, CIRCALYS® 1% or 2%, or placebo, during 5 days. Immunolabelling at day 6, quantification in epidermis.

PROVEN EFFICACY

CLINICAL STUDY - IN VIVO

DESIGN

Study on 48 night/shift workers (30-59 yo) with visible signs of fatigue (dark circles, eye bags, wrinkles, dull tone). Gel with CIRCALYS® 1% (n=24) or placebo (n=24). Application twice a day during 28 days.



CLINICAL SCORING OF FACIAL SIGNS OF FATIGUE

EYE BAGS

-28%****

Analysis on subjects with DO score ≥ 1.5 (n=14 for each group)
****p<0.0001 vs DO - Significant effect vs placebo (p<0.05)

DARK CIRCLES

-13%****

Analysis on subjects with DO score ≥ 1.5 (n=19 for CIRCALYS® 1%, n=21 for placebo)
****p<0.0001 vs DO

UNDER-EYE WRINKLES

-21%**

**p<0.01 vs DO

SELF-ASSESSMENT

RESTORES SKIN RADIANCE

75%

SMOOTHES SKIN (wrinkles, fine lines)

75%

MAKES SKIN RESTED & COMFORTABLE

88%

VOLUNTEER 1

DO

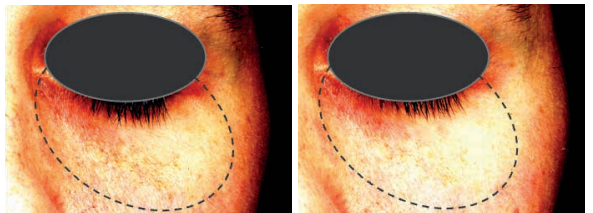
D28 - CIRCALYS® 1%



VOLUNTEER 2

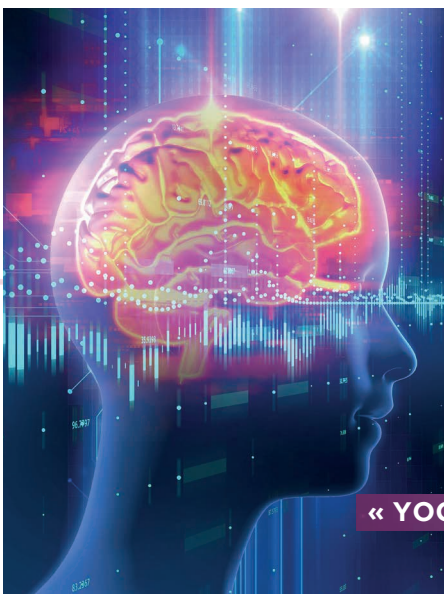
DO

D28 - CIRCALYS® 1%



CIRCALYS® REDUCES FACIAL VISIBLE SIGNS OF FATIGUE

EVALUATION OF PSYCHOLOGICAL STATE



3 SCIENTIFICALLY RECOGNIZED PSYCHOLOGICAL TESTS

FEELING OF WELL-BEING

+8%*

vs DO

TRAIT EMOTIONAL INTELLIGENCE QUESTIONNAIRE - SHORT FORM (TEIQUE-SF)
(Cooper and Petrides, 2010)

NEGATIVE AFFECT

-17%*

vs DO

POSITIVE AFFECT AND NEGATIVE AFFECT SCHEDULE (PANAS)
(Watson et al., 1988)

PERCEIVED STRESS

-12%*

vs DO

PERCEIVED STRESS SCALE (PSS)
(Cohen and Williamson, 1988)

No effect with placebo
*p<0.05

« YOGA-LIKE » EFFECT

Similar reduction of negative affect evaluated by PANAS, observed in a study on stressed guards following yoga module (Amaranath et al., 2016)

CIRCALYS®: A FEEL GOOD ENERGIZER

CIRCALYS®

TECHNICAL INFORMATION

FORMULATION

Concentration for use: 1%

pH for use: 4.0 - 8.0 (<6 for alcohol)

Caution for use:

Add at the end of the process around 30 °C.

Formulation guidelines and stability studies available on demand.

TECHNICAL DATA

Characteristics

Organoleptic Appearance: liquid
 Colour: yellow to dark amber

Solubility at 10% in water: partially soluble

Storage

Keep in a dark place, in the original packaging, at an ambient temperature between 15° and 25 °C.

Tests of tolerance

- Skin irritation (tested at 3%): Very good skin compatibility (Patch test)
- Sensitization (tested at 3%): Very good skin compatibility (HRIPT)
- Eye irritation (tested at 3%): Practically non-irritant (HETCAM-CFIO test)
- Phototoxicity: Not phototoxic (in vivo Photopatch test, ISO 24442:2011)
- Mutagenicity test: Not mutagenic (Ames test - OECD 471)

• **INCI name:** *Propanediol, Water, Andrographis paniculata leaf extract*

• **Preservative:** None

• **Authorized:** China

• **Approved:** COSMOS

• **Naturality (ISO 16128) :** 100% natural origin content



Raw material approved by ECOCERT GREENLIFE, according to COSMOS Standard

Warning: The information in this document are the result of studies and interpretations based in part on published or generally accepted scientific data. They are provided for information purposes in terms of possible end applications and cannot be considered as instructions for use. We accept no responsibility concerning marketed formulas containing one or more of our products. Compounders must take all necessary precautions and ensure that all legal and administrative formalities have been fulfilled.

Edition, April 2022



ÉNERGISANT
FEEL GOOD

INNOVATION GREENTECH: CIRCALYS®

UN INGRÉDIENT ACTIF **CHRONO-DETOX & ÉNERGISANT FEEL GOOD**
BASÉ LE CONCEPT DE CHRONOBIOLOGIE & UNE APPROCHE PSYCHOBIOLOGIQUE.

GREENTECH lance un nouvel ingrédient actif naturel innovant : CIRCALYS®. Titré en andrographolide et issu d'une plante ayurvédique, la Chirette Verte, il réduit efficacement les impacts sur la peau et l'humeur de la fatigue induite par les modes de vie modernes.

> DES MODES DE VIE MODERNES QUI RIMENT AVEC FATIGUE

Nos **nouveaux modes de vie effrénés** perturbent notre rythme naturel, entraînant une **fatigue croissante chez près de 45% de la population**, notamment chez les femmes. Les **rythmes circadiens** sont notre horloge interne. Dérégulés, ils vont influencer la plupart des processus biologiques, résultant en une **peau fatiguée et impactant l'humeur**.

Conscient de ces importantes répercussions, Greentech a créé **CIRCALYS®**, un **ingrédient actif innovant titré en andrographolide**, une molécule identifiée par la R&D de Greentech pour contrer la perturbation des rythmes circadiens et revitaliser la peau. **Inspiré de l'Ayurveda**, CIRCALYS® a été développé à partir de la Chirette Verte (*Andrographis paniculata*), une plante détoxifiante majeure dans la médecine traditionnelle ayurvédique.

CIRCALYS®: un actif chrono-détox et énergisant feel good conçu selon des approches chronobiologique et psychobiologique. Approuvé Chine et COSMOS, 100% d'origine naturelle (ISO 16128).

> CIRCALYS®: MODULATEUR DES RYTHMES CIRCADIENS ET DE L'AXE CERVEAU-PEAU

CIRCALYS® **module les rythmes biologiques de la peau**, en restaurant un profil d'expression des **gènes clock** «jeune» stimulant chez les kératinocytes âgés/fatigués et en agissant sur des **modulateurs circadiens** impliqués dans des voies cellulaires clé. CIRCALYS® accroît la longévité des cellules cutanées et réduit les dommages cellulaires, revitalisant ainsi la peau. CIRCALYS® agit aussi comme un **modulateur de l'axe «Cerveau-Peau»**, en boostant les voies biologiques de l'**ocytocine**, des **endocannabinoïdes** et des **endorphines**, pour une **peau relaxée et protégée** des conséquences des modes de vie modernes.

> CIRCALYS®: MAKE YOUR SKIN MODERN LIFE-PROOF

CIRCALYS® réduit efficacement les impacts de la fatigue sur la peau et l'humeur.

Testé cliniquement sur des travailleurs de nuit en horaires décalés pendant 28 jours, il a été montré que CIRCALYS® **réduisait significativement les signes visibles de fatigue du visage: poches, cernes et rides sous oculaires**). Les volontaires ont également trouvé leur **peau plus lumineuse, confortable et reposée**.

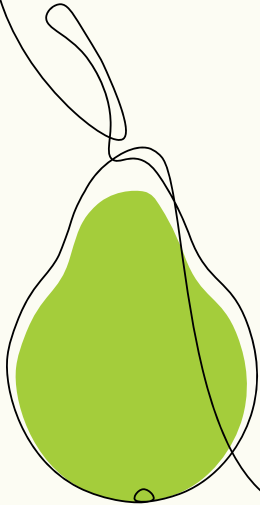
Grâce à **3 tests psychologiques scientifiquement reconnus**, il a également été prouvé que l'utilisation de CIRCALYS® dans une formule cosmétique **modulait significativement les impacts de la fatigue sur l'humeur : augmentation du sentiment de bien-être, réduction du stress perçu** et des **affects négatifs** (effet «yoga»).



BIOTECHNOLOGIES

GREENTECH

HYDRA MIST



THIS IS
WHY WE
FEEL GOOD!

MADE WITH
CIRCALYS® & SOLIBERINE® & LIFTISS®

FORMULA HYDRA MIST WITH CIRCALYS®, SOLIBERINE® & LIFTISS®

N° MIST-001-05

**KEY
FACT**

ZOOM FATIGUE

Seeing oneself in visioconference could cause self-evaluation and negative affect (Bailenson, 2021)

HYDRA MIST is an **on-the-go face mist** providing **flash moisturizing and beauty-enhancing effects**, thanks to the association of **muilage of baobab seeds from Burkina Faso** (1) and organic & fair-trade aloe vera from Mexico (2). As a real **"energizing shot"** with a fresh stimulating pear fragrance, to be used before a visioconference or during long days at work, this mist **protects skin against stress induced by blue light** from screens due to active molecules concentrated in a **Buddjela officinalis** flower extract (3). Thanks to an **extract of green chiretta titrated in andrographolide** (4), **fatigue has no hold on your face: skin is rested, dark circles, eye bags and under-eye wrinkles are reduced**. Nor on your mood: a clinical study on tired night/shift workers proved the use of a cosmetic product with this active ingredient during 28 days, both significantly **increased feeling of well-being and reduced negative affect**.

ISO 16128 : Natural content : 92%; Natural origin content : 98%

	MATERIAL NAME	INCI	SUPPLIER	PROPERTIES	%
A	HIMALAYAN WATER (SB) (340104)	AQUA (WATER) (AND) CITRIC ACID (AND) POTASSIUM SORBATE (AND) SODIUM BENZOATE	GREENTECH	solvent	89.75
	ALOE VERA ORGANIC SPRAY DRYING DRY EXTRACT 200:1 FAIR FOR LIFE (901025) ²⁰	ALOE BARBADENSIS LEAF JUICE POWDER	GREENTECH BSB Innovation Award Environment 2020 L'Oréal Category Materials	moisturizing agent	0.05
	A-LEEN 5	PENTYLENE GLYCOL	MINASOLVE	preservative	3
	XANTHAN GUM	XANTHAN GUM	AMI/BASF	gelling agent	0.1
B	CIRCALYS (001246) ⁽⁴⁾	PROPANEDIOL (AND) ANDROGRAPHIS PANICULATA LEAF EXTRACT (AND) AQUA (WATER)	GREENTECH	anti-aging circadian rythm regulator concealing	1
	LIFTISS SB (001014) ¹	AQUA (WATER) (AND) ADANSONIA DIGITATA PULP EXTRACT (AND) SODIUM BENZOATE (AND) XANTHAN GUM (AND) POTASSIUM SORBATE	GREENTECH	anti-aging anti-wrinkles tightening	3
C	SOLIBERINE NAT (001173) ⁽³⁾	AQUA (WATER) (AND) PROPANEDIOL (AND) BUDDLEJA OFFICINALIS FLOWER EXTRACT	GREENTECH	anti free-radical Blue-light protector IR-screening UV protective	2
D	COSMACOL N-II-9	C12-13 PARETH-9	BRENNTAG	solubilizer	1
	POIRE ROYALE	PARFUM	FRAGRANCE PROJECT INTERNATIONAL	perfume	0.1
					100

OPERATING INSTRUCTIONS

- Add aloe vera in Himalayan water and mix 2min, then add the preservative
- Add xanthan gum and mix until the gel formation
- Add B and mix 2min
- Adjust the pH around 5.5 with a sodium hydroxyde solution
- Add C and mix 2min
- Add the premix D and mix 2min

• pH : 5.11

Warning: The company cannot assume any liability or risk involved in the use of its products since the conditions of use are beyond our control. We assume no responsibility concerning the formulations which are brought to the market and which contain one or several of our products. It is incumbent to the formulators to take all necessary precautions and, in particular, to comply with all required legal and regulatory steps and formalities.