

# GINKGO BILOBA TERPENES PHYTOSOME®

SOOTHING, LENITIVE

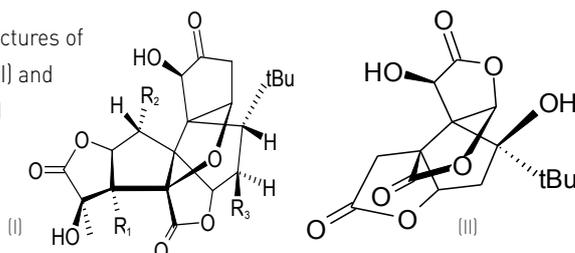
PERSONAL CARE

## CHARACTERISTICS

GINKGO BILOBA TERPENES PHYTOSOME®	AVAILABLE DOCUMENTATION
HPLC Content: ≥ 30% of total ginkgoterpenes with reference to the anhydrous and solvent free substance Form: light brown powder, odorless pH: not applicable (insoluble in water) Stability: retesting date after 24 months Level of use: 0.5% - 1.5% Solubility*: soluble in Ethoxydiglycol, Polyisoprene, C12-15 Alkyl Benzoate, Wheat Germ Oil, Paraffin Oil, Isopropyl Myristate, C10-18 Triglycerides, Caprylic Capric Triglycerides	Botanical Certificate Method of analysis Reference Standards Declaration GMO free Safety Data Sheet Stability data Published literature Confidential documentation

\* 50 mg of Ginkgo biloba Terpenes Phytosome® in 10 g solvent at 40°C

General structures of ginkgolides (I) and bilobalide (II)



## SAFETY DATA\*

- In all the safety trials conducted to date, the product
- has shown a good tolerability and can therefore be
- considered innocuous for the foreseen use.<sup>1,2,3</sup>

	R1	R2	R3
Ginkgolide A	OH	H	H
Ginkgolide B	OH	OH	H
Ginkgolide C	OH	OH	OH
Ginkgolide J	OH	H	OH

## FORMULATION EXAMPLES

SOOTHING EMULSION WITH GINKGO BILOBA TERPENES PHYTOSOME®				Formulation Advice
Aqua (water)	66.30%	Simmondsia Chinensis (jojoba) Oil	4.00%	The physico-chemical characteristics of Ginkgo biloba Terpenes Phytosome® and its ready dispersibility in water and oil virtually pose no limitations to the preparations of cosmetic formulations. Ginkgo biloba Terpenes Phytosome®, dispersed in aqueous phase by a homomixer or a turboemulsifier, is suitable for incorporation into monophasic and biphasic systems.
Glycerin	4.00%	Caprylic / Capric Triglyceride	4.00%	
Betain	1.00%	Squalane	3.00%	
Potassium Sorbate	0.15%	Omegablue®	2.00%	
Aqua (water) / Sodium phytate	0.10%	Tocopherol / Heliantus Annuus (sunflower) Seed oil	0.10%	
Ginkgo biloba Terpenes Phytosome®	0.50%	Lecithin / Tocopherol / Ascorbyl palmitate / Citric acid	0.05%	
Xilogel®	0.50%	Aqua / Dehydroacetic acid / Benzyl alcohol	0.80%	
Xanthan gum	0.10%	ALSO SUITABLE FOR: After sun products After shave products Bodycare and after peeling products After depilation Products for sensitive and challenged skin Baby care products.		
Glyceryl stearate citrate / Cetearyl alcohol / Glyceryl caprilate	4.00%			
Hydrogenated Olive Oil / Olea europaea (olive) Fruit Oil / Olea europaea (olive) Oil Unsaponifiables	2.40%			
Glyceryl stearate	1.00%			
Cetearyl alcohol	2.00%			
Cetyl alcohol	0.50%			
Butyrospermum parkii (shea) Butter	3.50%			

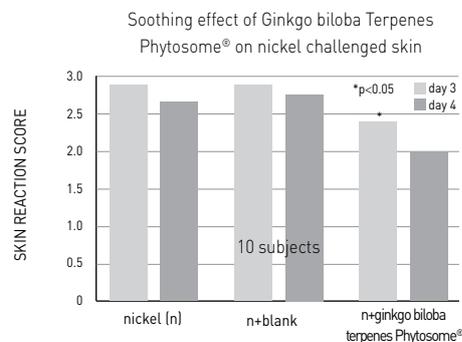
\* All safety trials are compliant to EU regulation 1223/2009.

The ingredients described herein are offered for consideration for use in personal care products. The information provided describes historical use, ingredient activity and other information that may be relevant to their use in such products. How each ingredient would contribute to a particular product would be formulation specific. Furthermore please note that this documentation is available for various countries all over the world and hence it may contain statements not applicable to your country.



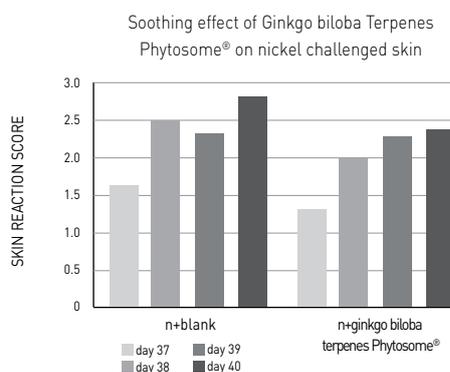
## SOOTHING EFFECT ON NICKEL CHALLENGED SKIN

- A study<sup>4</sup> was undertaken to evaluate the activity of Ginkgo Biloba Terpenes Phytosome<sup>®</sup> against a condition of skin nickel challenge in human volunteers.
- 10 women (aged 19-56 years), presenting a positive response to nickel (nickel sulphate 5% in mineral oil, applied in occlusive patches) have been selected and treated daily on their arms with a gel containing 1.5% of Ginkgo Biloba Terpenes Phytosome<sup>®</sup> (on one arm) and blank formulation (on the other arm). After three and four days, the responses to nickel were scored (from 0 to 3 according to International Contact Dermatitis Research Group quotation).
- Results showed a statistically significant reduction of the skin reaction intensity.



## SOOTHING EFFECT ON LONG TERM APPLICATION

- After a long term treatment over forty days,<sup>4</sup> the scoring of the response to nickel has been repeated, and the trend toward a reduction of the inflammatory response has been confirmed.
- Allergic contact dermatitis is a complex phenomenon in which the skin immune system is involved with the stimulation of specific T-cells and keratinocytes that produce cytokines.
- Usually, allergic contact dermatitis is expressed as erythema, oedema and itching.
- Ginkgo Biloba Terpenes Phytosome<sup>®</sup> was shown to be effective on soothing individual contact reactions to other substances contained in topical formulations.



## MECHANISM OF ACTION

- Studies demonstrated that ginkgolides are specific and potent antagonists of Platelet-Activating Factor (PAF), an inflammatory autacoid that is produced by, and acts on, a wide variety of cells.<sup>5</sup> They inhibit the binding of PAF to its platelet membrane receptor, and as ginkgolides do not interact with any other known receptor, their effect is highly specific.<sup>6</sup>

## DID YOU KNOW...

- Ginkgo biloba* is considered as a living fossil, as it is the only survivor of a species originated 150 million years ago: as the tree defended itself throughout the centuries, it is in its components that modern science has identified the reasons for this immutability.
- The standardized extract from the *Ginkgo biloba* leaves contains flavonoids and unique terpenoids such as ginkgolides and bilobalide, which have been observed to be potent inhibitors of the pro-inflammatory PAF (Platelet Activating Factor); this property is related to the soothing efficacy of the terpenoid fraction, and its formulation with lecithin (Ginkgo biloba Terpenes Phytosome<sup>®</sup>) is therefore recommended for the topical application on challenged skin.

TRADE NAME	INCI (PCPC)	INCI (E.U.)	EINECS N.	CAS N.	INDENA CODE
Ginkgo Biloba Terpenes Phytosome <sup>®</sup>	Lecithin (syn. Phosphatidylcholine) (and) Ginkgo biloba Leaf Extract	Lecithin (syn. Phosphatidylcholine), Ginkgo Leaf Terpenoids	232 - 307 - 2 289 - 896 - 4	8002 - 43 - 5 90045 - 36 - 6	9033015

1. Internal report: 7548-M-03999. - 2. Internal report: 7731/T/7174/2000. - 3. Internal report: 7456/T/018/2000. - 4. Cristoni A., Di Piero F., Guglielmini G., Giori A., Morazzoni P., "Soothing activity of terpenoid fraction of Ginkgo biloba and of its phospholipidic complex", Proceedings of 22nd IFSCC Congress, Edimburgh, 2002. - 5. Braquet P., Toqui L., Shen T.Y., Vargafitig F.F., "Perspectives in platelet aggregating factors research", *Pharmacological Reviews* 39, 97-145, 1987. - 6. Braquet P., Hoshford D., "Ethnopharmacology and the development of natural PAF antagonists as therapeutic agents", *Journal of Ethnopharmacology* 32, 135-139, 1991.

