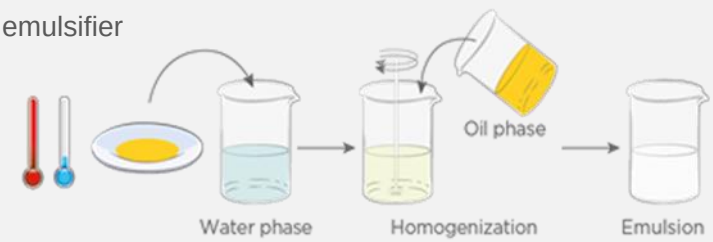
LUCASMEYER COSMETICS by IFF

FORMULATION GUIDELINES

Lysofix™ Liquid

PRODUCT DESCRIPTION: Lysofix™ Liquid is a cold processable emulsifier with high content of lysophospholipids from natural origin for the formulation of O/W micellar emulsions, which enables the formulation of fluid lotions to creams. Lysofix™ Liquid acts not only as emulsifier but also as sensory agent without impacting the formula viscosity.

INCI name	Glycerin (and) Glycine Soja (Soybean) Seed Extract
Appearance	Light transparent yellow viscous liquid 
HLB value	13 ± 2
Classification	Micellar anionic
Recommended dosage	• 1% - 3% as co-emulsifier • 3% - 5% as main emulsifier 3% of Lysofix™ Liquid alone can emulsify up to 20% of oily phase 5% of Lysofix™ Liquid alone can emulsify up to 60% of oily phase
Recommended pH	4.0 - 8.0 (Below 4.0, the emulsion tends to destabilize. Above 8.0, an odor may develop).
Process	• Main emulsifier  Incorporation: at the end of the water phase preparation Maximal temperature: 85°C Emulsification: oil phase into water phase Use of tooth propeller possible but preferably use a Rotor Stator, especially in the case of fluid to very fluid formulas. Longer emulsification step can be applied to make the emulsion thinner (10 minutes recommended for very fluid to fluid formulas).

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Process	• Co-emulsifier Incorporation: in the water phase or at the end of the formula		
Additional properties	• Make-up removal properties: CMC (%w) : 0.020 Association between Lysofix™ Liquid and a surfactant provides transparency • Co-emulsifying properties: suitable especially in association with low HLB emulsifiers		
Compatibilities	Oil phase	All types (polar, non-polar, natural, silicones…)	
	Natural gelling agents	• Xanthan gum • Cellulose derivatives • Sclerotium gum • Pullulan • Locust bean gum…	
	Synthetic gelling agents	• Acrylates • Taurates • Carbomers	
	Co-emulsifiers	• PEG • Polyglycerol esters • Sucro-esters • Glucosides…	
	Preservatives and preservative boosters	• Parabens • Chlorphenesin • Phenoxyethanol • Ethylhexylglycerin • Potassium Sorbate • Sodium Benzoate • Phenylpropanol • Propanediol	• Sodium Levulinate • Sodium Anisate • Caprylyl Glycol • Glyceryl Caprylate/Caprate • Pentylene Glycol • Phenethyl Alcohol • Salicylic Acid
	Chelating agents and antioxidants	• Sodium Phytate • EDTA • Tocopherol	
	Electrolytes	• Monovalent: up to 4% • Divalent: up to 3.5%	

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Compatibilities	Ethanol	Up to 20%
	Surfactants	• Anionic : Disodium Cocoyl Glutamate, Sodium Cocoyl Glutamate, Disodium Cocoamphodiacetate, Sodium Lauroyl Lactylate • Amphoteric: Cocamidopropyl Betaine • Non-ionic: Decyl Glucoside, Coco Glucoside
	Pigments/pearls	• Organic • Mineral • Pearls
	UV filters	• Chemicals: Benzophenone-3, Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine, Butyl Methoxydibenzoylmethane, Ethylhexyl Salicylate, Ethylhexyl Triazone, Homosalate, Octocrylene • Physicals: Titanium Dioxide, Zinc Oxide
Incompatibilities	• Caprylhydroxamic acid: significant odor change during aging • Triheptanoin: significant odor change during aging • No known incompatibility with other cosmetic ingredients	
Formulation tips & tricks	• Use of a gelling/suspending agent is mandatory for emulsion stability • In case of oxidation of formula, addition of chelating agent and/or antioxidant is recommended • Stability of the emulsion reinforced with addition of gelling/suspending agent, thickeners, co-emulsifiers • Viscosity can be increased with addition of gelling/suspending agent, thickeners, increase of oil phase quantity • Surfactant-based preservatives: it is recommended to add them at the end of the formula, to prevent the formation of foam	
Textures & applications	• Micellar waters • Sprays • Lotions	• Creams • Butters • Mild toiletries…

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