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IQL
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A Nisshin OilliO Group Company

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The users of the products are responsible of how they use the products. Proposals for uses in applications are only suggestions.

Polyglycerol Esterification = Natural Emulsification

O/W & W/O Emulsifiers

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Naturally derived ingredients are preferred in most markets; IQL has been involved in the research and development of vegetable alternatives for Personal Care products.

The importance of the right emulsifier into an emulsified system is generally recognized: the texture, stability, safety profile of the final product and nowadays the sensorial properties of the cream is becoming more and more one the main characteristic to be considered when choosing an emulsifier. IQL Polyglycerol ester-based cosmetic ingredients meet these requirements combining natural emulsification systems and high performance properties.

NATURAL EMULSIFICATION

Prepared from natural resources SOLDOC PG 410 and SOLDOC PGPR are multifunctional ingredients for today's personal care formulations.These Polyglyceryl Esters are biodegradable, safe and free of 1,4-dioxane and any of its precursors. They are excellent alternatives for polysorbates, PEG and linear alcohol ethoxylates.

HIGH PERFORMANCE

This natural-based emulsification system creates stable, long-lasting emulsions with an incredibly diverse range of ingredients. These Polyglyceryl Esters are easy-to-formulate due to their liquid form, and offer outstanding improved skin feel, appearance, texture and appealing application for the final consumer.

SOLDOC PG 410

SOLDOC PG 410 is a PEG-free non ionic emulsifier based on natural raw materials, used in O/W emulsions with a particular light-aqueous skin-feel. SOLDOC PG 410 helps form bright white creams and lotions with a light texture and good emolliency. The resulted is a very pleasing after-feel.

This efficient emulsifier can form stable emulsions in a wide range of pH (4.5<pH<8). It is compatible with the most commonly used additives, as well as active ingredients. The product is easily employed as a primary emulsifier and it can be used in more consistent creams in combination with secondary emulsifiers or with consistency waxes, when a higher viscosity is required.

EMULSIONS USING SOLDOC PG 410 PRESENT INTERESTING SENSORIAL BENEFITS:

- Attractive appearance of bright creams
- Light and soft textures
- Smooth and light skin feel
- Rapid skin penetration
- Good emolliency and non greasy feeling
- Excellent spreading properties

KEY FEATURES

- Outstanding emulsifying properties -provides stable O/W emulsions
- Does not increase viscosity
- Easy-to-use, liquid form
- Cold and hot process
- Emulsifies any oil phase type and concentration
- Functions as a self-emulsifying system in oil formulations, such as oil bath concentrates, which will then spontaneously emulsify when added to water
- Is used as PEG-free re-fatting agent especially in toiletries (body washes and liquid soaps)

It can be used in a wide range of Personal Care applications:
Skin Care • Facial Care & Body Care products
Hair Care • Conditioners & Shampoos products
Sun Care • Sun Protection & After-sun products
Toiletries • Personal wash

TYPICAL PROPERTIES

INCI: Polyglyceryl-4 Caprate
CAS number: 160391-93-5
Appearance: Viscous yellowish liquid
HLB value: 14.5
Solubility: Oil & water soluble
Character: non-ionic
pH must be ≥ 4.5
Dosage: 2 - 10 %

SOLDOC PGPR

SOLDOC PGPR is a PEG-free emulsifier based on vegetable raw materials, suitable for W/O creams and lotions with a brilliant white appearance and pleasant application properties.

SOLDOC PGPR emulsions match all the important characteristics of stability and an appreciable skin feel. It can produce very stable, fluid, low viscosity emulsions which spread easily and give a light skin feel.

This natural derived emulsifier has excellent compatibility with a wide number of oils, as well as other common ingredients.

EMULSIONS OBTAINED WITH SOLDOC PGPR PRESENT INTERESTING SENSORIAL BENEFITS:

- Brilliant white appearance and pleasant application
- Light and smooth cream textures
- Good emolliency and a smoothing after-feel without any occlusive effect
- Good spreading, no tackiness.
- Excellent emulsion stabilization properties with a particular light skin feel

KEY FEATURES

- Efficient emulsifying power - provides stable W/O emulsions
- Effective with polar & non-polar oils
- Low and high oil phase ratio
- Imparts excellent high and low temperature stability
- Cold and hot proces, liquid form
- Easy and reproducible emulsion processing

SOLDOC PRPG can be used in Personal Care applications for:
Skin Care • Facial Care & Body Care products
Sun Care • Sun Protection & After-sun products
Color Cosmetics • Make-up

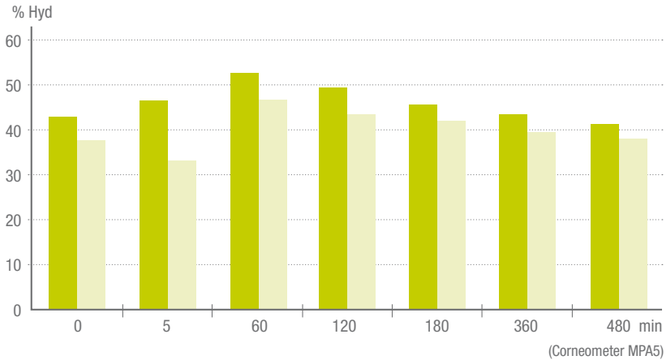
TYPICAL PROPERTIES

INCI: Polyglyceryl-3 Ricinoleate
CAS number: 68936-89-0
Appearance: Viscous yellow liquid
HLB value: 2.3
Solubility: Oil soluble
Character: non-ionic
Dosage: 2 - 8 %

IN-VIVO corneometer test

Finished cosmetic products containing SOLDOC present a pleasant skin feel. Emulsions obtained are white, very bright, and leave a very soft finish. Very untuous and mild, emulsions spread easily on the skin and offer a sensation of extreme comfort and protection. SOLDOC is well adapted for all types of skin even the most sensitive and reactive. SOLDOC emulsifiers offer an immediate and a long lasting moisturising effect after 8 hours of application.

moisturising effect of SOLDOC PG 410

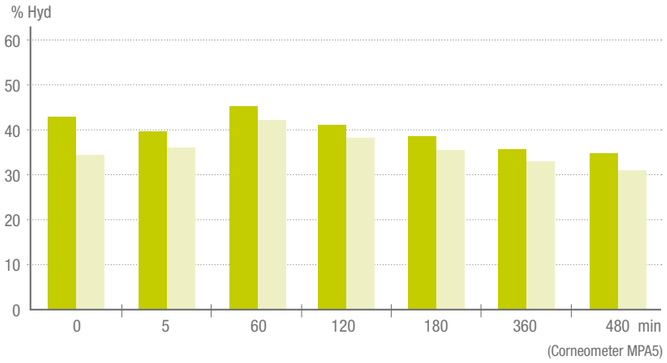


INGREDIENTS	FORMULATION 1	FORMULATION 2
	%	
DISTILLATED WATER	Up to 100%	Up to 100%
SOLDOC PG 410	5	---
GLYCERYL STEARATE, PEG-100 STEARATE	---	5
CAPRYLIC/CAPRIC TRIGLYCERIDE	20	20
PRESERVATIVES	q.s	q.s

Treated Area:
Formulation 1 with 5% SOLDOC PG 410

Treated Area:
Formulation 2 with 5% GLYCERYL STEARATE (AND) PEG-100 STEARATE

moisturising effect of SOLDOC PGPR



INGREDIENTS	FORMULATION 1	FORMULATION 2
	%	
DISTILLATED WATER	Up to 100%	Up to 100%
SOLDOC PGPR	5	---
PEG-30 DIPOLYHYDROXYSTEARATE	---	5
CAPRYLIC/CAPRIC TRIGLYCERIDE	20	20
PRESERVATIVES	q.s	q.s

Treated Area:
Formulation A with 5% SOLDOC PGPR

Treated Area:
Formulation B with 5% PEG-30 DIPOLYHYDROXYSTEARATE