



EMULSIFIER

PAIR2PHASE-SERIES

PAIR2PHASE PRODUCTS ARE ANIONIC O/W EMULSIFIERS FOR COSMETIC PREPARATIONS LEADING TO OUTSTANDING SKIN FEEL AND ROBUSTNESS FOR CREAMS AND LOTIONS.

The combination of Potassium Cetyl Phosphate with different waxes provides additional benefits for leave-on applications. Pair2Phase allows sun care formulations to achieve water resistance. Potassium Cetyl Phosphate regulates humidity on the skin due to its phospholipid analogues driving force to form a lamellar structured permeable membrane on skin.

- COSMOS and NaTrue certified
- Easy to incorporate after heating
- Gives robustness to oil in water emulsions
- Humectant abilities
- Free from preservatives and fragrances
- PEG-free, EO-free, Sulphate-free
- Outstanding skin feel without stickiness
- Concentration of use: 0.5 - 5%

Product name	INCI	Appearance	PO / PKO*	Remarks
PAIR2PHASE1	Potassium Cetyl Phosphate, Behenyl Alcohol	White-beige flakes	0 / 39	COSMOS, NaTrue
PAIR2PHASE1 MB				COSMOS, NaTrue, RSPO - MB**
PAIR2PHASE2	Potassium Cetyl Phosphate, Oryza Sativa Bran Cera	Yellow-amber flakes	0 / 39	COSMOS, NaTrue
PAIR2PHASE2 MB				COSMOS, NaTrue, RSPO - MB**
PAIR2PHASE3	Potassium Cetyl Phosphate, Stearyl Alcohol	White-beige flakes	0 / 39	
PAIR2PHASE3 MB				RSPO - MB**

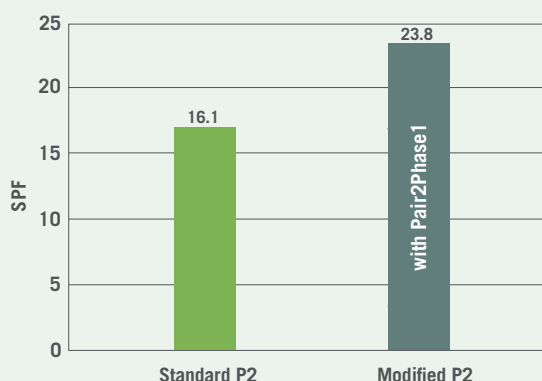
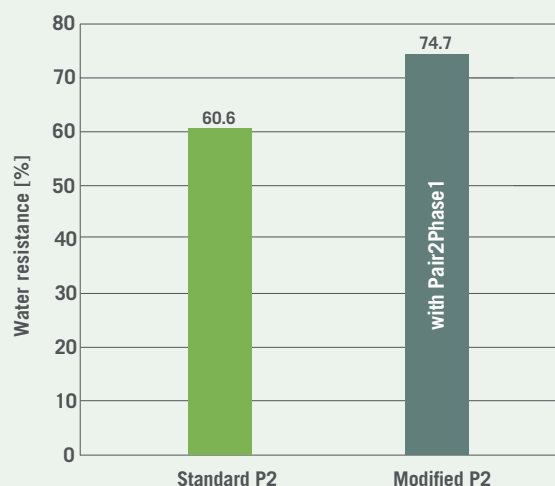
* PO Palm oil / PKO Palm kernel oil (%) ** RSPO Certificate Number CU-RSPO SCC-846664

APPLICATION

- Creams
- Lotions
- Skin and body care
- Sun care formulations
- Cleaning products based on emulsions
- Personal hygiene products

IN VIVO TEST

Emulsifiers of COLIPA standard sun screen formula (P2) were exchanged with Pair2Phase1 to give the Modified P2 cream. Standard and Modified were investigated according to the COLIPA guideline (2005) for water resistance testing. The Modified P2 achieved a water resistance value of 74.7 %. This result was significant higher than the obtained result of 60.6 % regarding Standard P2. This shows that with a boosting effect of Pair2Phase emulsifiers it is very easy to develop formulations which will pass the required 50 % borderline to market water resistant claims.



COLIPA Standard P2 cream and the Modified P2 cream (containing Pair2Phase1) are applied within the test areas on the back of the subjects. After a waiting time between 15-30 minutes, the areas are irradiated with a sun simulator according to ISO 24444. The results of this in vivo test confirm the significant improvement of the Sun Protection Factor (SPF) of sunscreen products by using of Pair2Phase emulsifiers.

BODY LOTION

Part	INCI / Ingredient	% w/w
A	Aqua	81.00
	Glycerin	2.00
	Pair2Phase1 MB (Schill + Seilacher GmbH) Potassium Cetyl Phosphate, Behenyl Alcohol	2.50
B	Dicaprylyl Carbonate	4.50
	Macadamia Ternifolia Seed Oil	4.00
	Squalane	3.00
	Glyceryl Oleate	3.00
C	Citric Acid	qs to pH
D	Preservatives, Fragrances, etc.	qs

MANUFACTURING PROCEDURE

- Heat Part **A** to 75°C
- Heat Part **B** to 75°C
- Add Part **B** to Part **A** and mix until formulation appears homogeneous
- Cool down to room temperature
- Adjust pH-value with Part **C**
- Add Part **D**

PROPERTY

- Appearance: white cream
- pH-value: 5.5

BASE FOR FACIAL MASK

Part	Ingredient / INCI	% w/w
A	Aqua	56.00
	Glycerin	21.0
	Lecithin	1.0
B	Caprylic/Capric Triglyceride	10.00
	Butyrospermum Parkii (Shea) Butter	2.00
	Pair2Phase3 MB (Schill + Seilacher GmbH) Potassium Cetyl Phosphate, Stearyl Alcohol	5.00
	Citric Acid	qs to pH
D	Kaolin	5.0
E	Preservatives, Fragrances etc.	qs

MANUFACTURING PROCEDURE

- Heat Part **A** up to 70-75°C
- Heat Part **B** up to 70-75°C
- Add Part **B** to Part **A** while stirring
- Cool down to room temperature while stirring
- Adjust pH-value with Part **C** and mix until formulation appears homogeneous
- Add Part **D** while vigorous stirring
- Add Part **E**

PROPERTY

- Appearance: white*) cream
- pH-value: 5.5

*) colour is in accordance with Kaolin



SUNSCREEN WITH MINERAL UV-FILTERS

Part	INCI	% w/w
A	Aqua	45.00
	Glycerin	5.00
B	Pair2Phase1 MB (Schill + Seilacher GmbH)	5.00
	Potassium Cetyl Phosphate, Behenyl Alcohol	
	Capryl/Capric Triglyceride	25.00
C	Zinc Oxide (and) Jojoba Esters	10.00
	Titanium Dioxide, Hydrated Silica, Jojoba Esters	10.00
D	Citric Acid	qs to pH
E	Preservatives, Fragrances etc.	qs

MANUFACTURING PROCEDURE

- Heat Part **A** up to 75-80°C
- Heat Part **B** up to 75-80°C
- Add Part **B** to Part **A** and mix until formulation appears homogeneous
- Cool down to room temperature while stirring
- Add Part **C**
- Adjust pH-value with Part **D**
- Add Part **E**

PROPERTY

- Appearance: white cream
- pH-value: 5.5

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