

ATTRACTIVE FUNCTIONS OF HIGH POLAR ESTER

Application for Skin Care Products

by **ECO-FRIENDLY EMULSIFYING SYSTEM**

High Polar Esters have excellent functions on the skin;
Water Occlusion Ability -to protect moisture evaporation
Water Retention Ability -to provide moisture for skin

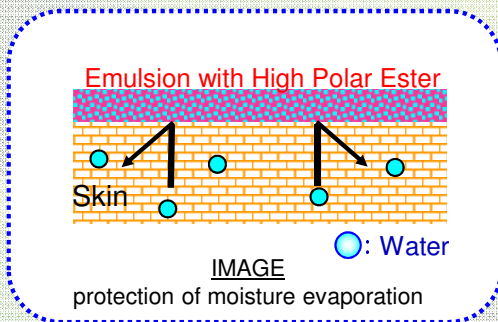
ECO-FRIENDLY
EMULSIFYING SYSTEM

「NOMCORT™ AG」

Maximize Attractive Functions
of High Polar Esters !

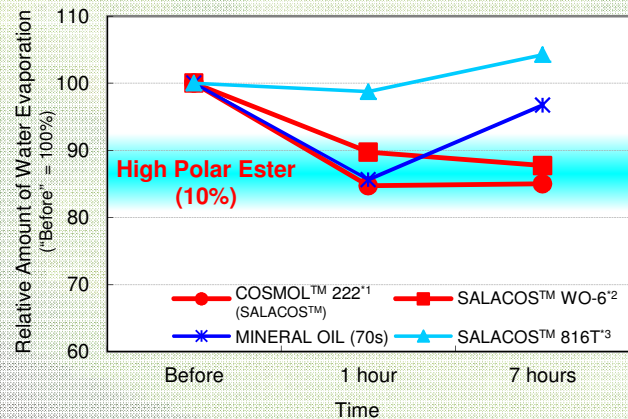
Emulsion with High Polar Ester can allow **Moisturizing Effect**

- Protect moisture evaporation from skin



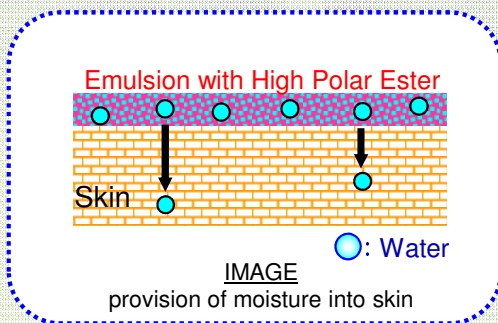
<Test Method>

1. Measure amount of moisture evaporation before applying emulsion (=100%) by TEWAMETER TM300
2. Apply emulsions on the skin
3. Measure time dependent change of moisture evaporation (n=8)



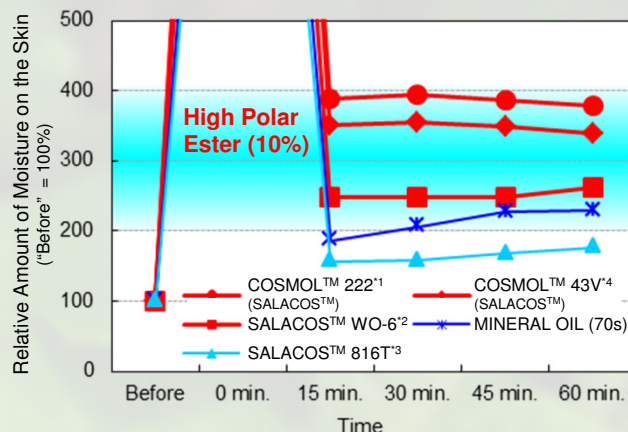
Moisture evaporation from epidermises after applying emulsions with 1.5% NOMCORT™ AG

- Provide constantly moisture into skin



<Test Method>

1. Measure amount of moisture on the skin before applying emulsion (=100%) by SKICON-200
2. Apply emulsions on the skin
3. Measure time dependent change of moisture (n=8)



Amount of moisture on the epidermises after applying emulsions with 1.5% NOMCORT™ AG

*1: DIISOSTEARYL MALATE

*2: DIPENTAERYTHRITYL TRI-POLYHYDROXYSTEARATE

*3: CETYL ETHYLHEXANOATE

*4: POLYGLYCERYL-2 TRIISOSTEARATE

ECO-FRIENDLY EMULSIFYING SYSTEM

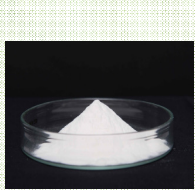
NOMCORT™ AG

Characteristic

1

Easy to prepare **SURFACTANT-FREE EMULSIONS**

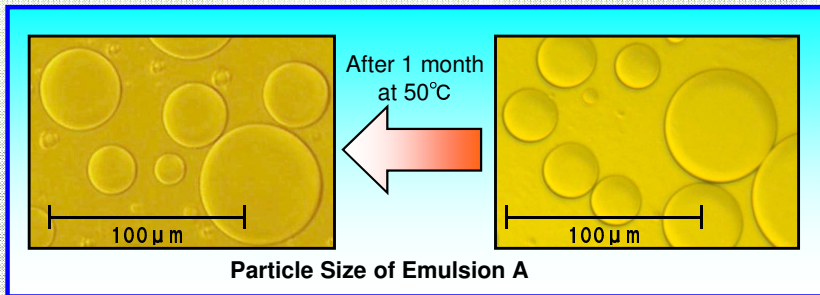
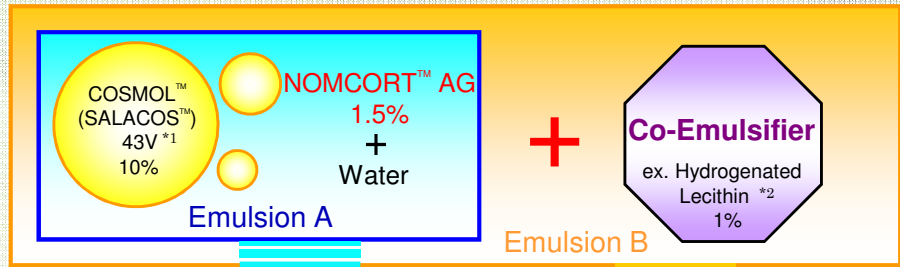
- Possible to develop new emulsion products expressed oil texture with large particle size



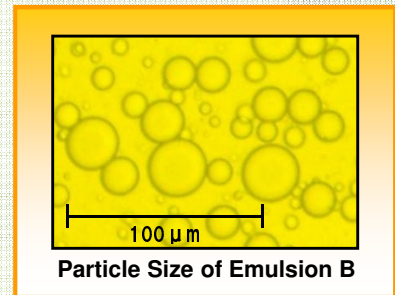
NOMCORT™ AG



Appearance of Emulsion with NOMCORT™ AG



Particle Size of Emulsion A



Particle Size of Emulsion B

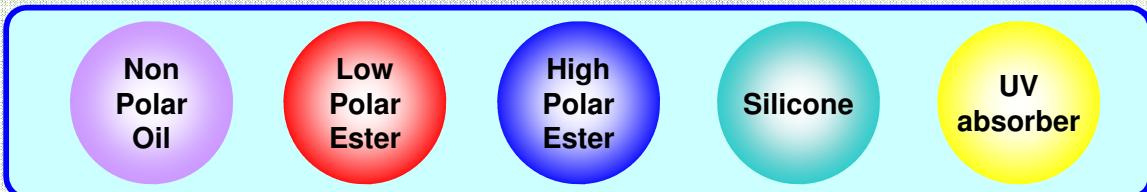
*1: POLYGLYCERYL-2 TRIISOSTEARATE *2: BASIS™ LP-20H

Characteristic

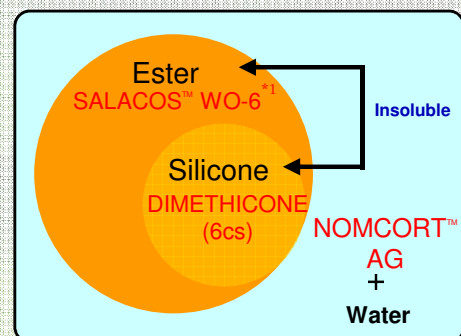
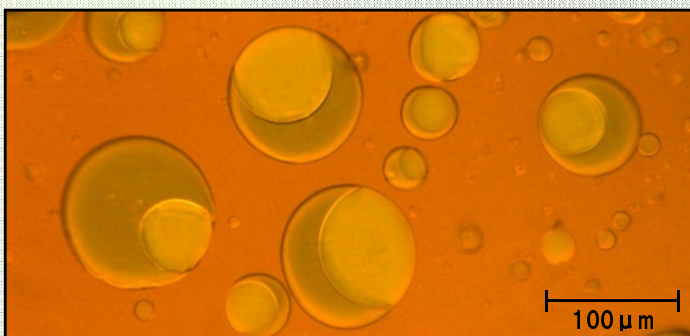
2

Possible to emulsify **“High Polar Esters”** and **“Insoluble Combination of Oils”**

- Easy to emulsify several kinds of oil without any consideration of the polarity



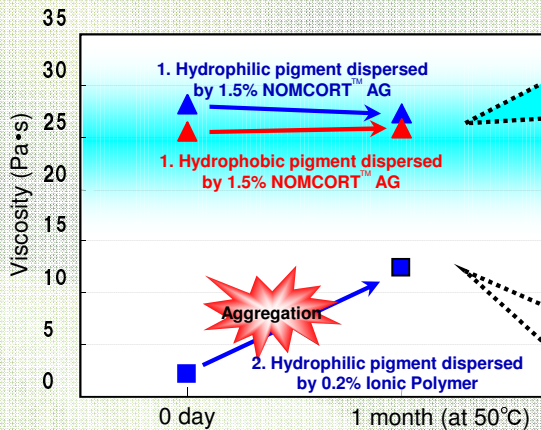
- Possible to emulsify insoluble combination of oils



*1: DIPENTAERYTHRITYL TRI-POLYHYDROXYSTEARATE

NOMCORT™ AG can thicken the dispersions with pigments without aggregation

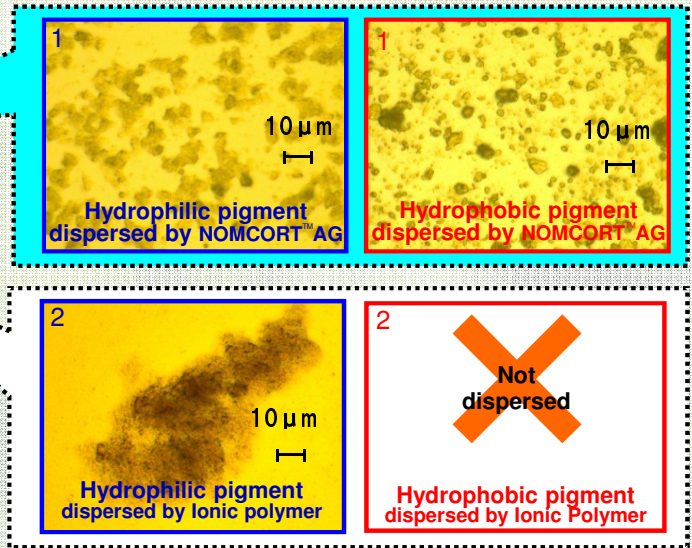
NOMCORT™ AG can be used with Hydrophilic/Hydrophobic pigments without aggregation



Viscosity change of water dispersion with pigment=10% and polymer

<Test Method>

1. Mix TITANIUM DIOXIDE and polymer aqueous suspension
2. Grind 1 by a three-roll mill
3. Observe the dispersion through microscope (x2,000)



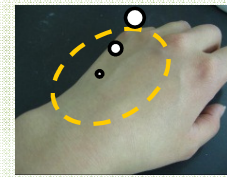
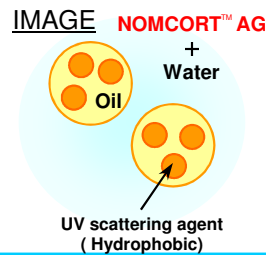
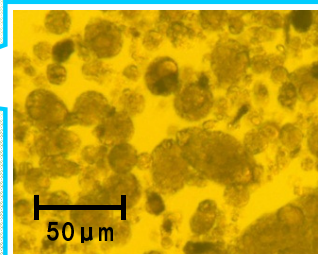
Water dispersion of Hydrophilic Pigment

Water dispersion of Hydrophobic Pigment

NOMCORT™ AG can make O/W emulsions with Hydrophobic pigments

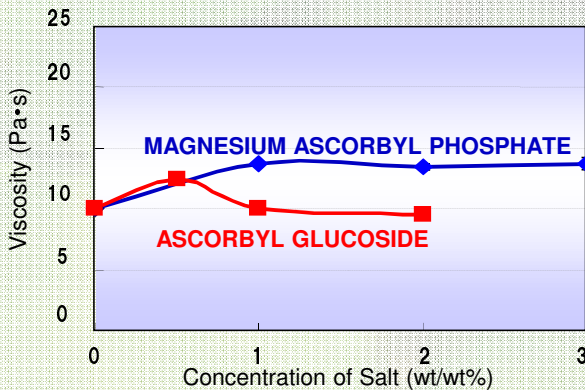


Sunscreen Cream with Hydrophobic UV scattering agent and NOMCORT™ AG =1.5%



NOMCORT™ AG has Good Salt Tolerance

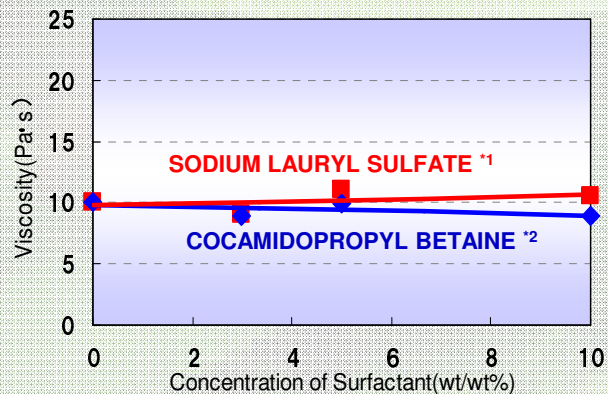
NOMCORT™ AG can thicken salt aqueous solution, ex. Vitamin C derivatives



Viscosity change of 1.5% NOMCORT™ AG aqueous solution with Vitamin C derivatives

NOMCORT™ AG can keep viscosity of surfactant solution

NOMCORT™ AG can thicken Anionic / Nonionic / Amphoteric surfactant solutions



Viscosity change of 1.5% NOMCORT™ AG aqueous solution with Surfactants

*1: Anionic surfactant *2: Amphoteric surfactant

Formula 1

MILKY LOTION(moisture type)
[MILKYLOTION2012-9-A]

	Ingredient	wt/wt%
A	NOMCORT™ AG	1.50
	GLYCERIN	5.00
	PENTYLENE GLYCOL	5.0
	SODIUM CITRATE	0.1
	PRESERVATIVE	q.s.
	WATER	adjust to 100.00
	B	SALACOS™ WO-6 *1
DIMETHICONE (6cs)		5.00
SALACOS™ 913 *2		5.00
Total		100.00

*1: DIPENTAERYTHRITYL TRI-POLYHYDROXYSTEARATE
*2: ISOTRIDECYL ISONONANOATE

<Procedure>

1. Heat A to 85 °C and dissolve it, while mixing uniformly (90 min.)
2. Heat B to 85 °C, and disperse it uniformly
3. Add 2 slowly to 1 while mixing by a disper mixer
4. Cool 3 to 25 °C while mixing slowly by a disper mixer

Formula 2

CLEANSING GEL
(for heavy make-up)
[CLEANSER2012-9-A]

	Ingredient	wt/wt%
A	NOMCORT™ AG	2.00
	GLYCERIN	5.00
	PENTYLENE GLYCOL	5.0
	SODIUM CITRATE	0.1
	PRESERVATIVE	q.s.
	WATER	adjust to 100.00
B	SALACOS™ PR-85 *1	15.00
Total		100.00

*1: PROPANEDIOL DICAPRYLATE/DICAPRATE

<Procedure>

1. Heat A to 85 °C and dissolve it while mixing uniformly (90 min.)
2. Heat B to 85 °C
3. Add 2 slowly to 1 while mixing by a disper mixer
4. Cool 3 to 25 °C while mixing slowly by a disper mixer

Formula 3

SUNSCREEN LOTION
(O/W, fresh and water-proof type)
[SUNSCREEN2012-9-A]

	Ingredient	wt/wt%
A	NOMCORT™ AG	1.50
	GLYCERIN	5.00
	PENTYLENE GLYCOL	5.0
	SODIUM CITRATE	0.10
	PRESERVATIVE	q.s.
	SODIUM METAPHOSPHATE	0.01
	WATER	adjust to 100.00
B	TITANIUM DIOXIDE	10.00
	ZINC OXIDE	5.00
C	BASIS™ LP-20H*1	1.00
	SALACOS™ E-38*2	10.00
	DIMETHICONE (6cs)	10.00
Total		100.00

*1: HYDROGENATED LECITHIN *2: ERYTHRITYL TRIETHYLHEXANOATE

<Procedure>

1. Heat A to 85 °C and dissolve it while mixing uniformly (90 min.)
2. Heat C to 85 °C and disperse it uniformly
3. Add B slowly to 1 while mixing by a homogenizer
4. Add 2 to 3 while mixing by a homogenizer
5. Cool 4 to 25 °C while mixing slowly by a homogenizer

Formula 4

BABY SHAMPOO
(viscous type)
[SHAMPOO2012-9-A]

	Ingredient	wt/wt%
A	NOMCORT™ AG	0.75
	GLYCERIN	5.00
	PENTYLENE GLYCOL	5.0
	PRESERVATIVE	q.s.
	EDTA-2Na	0.01
	WATER	adjust to 100.00
B	COCAMIDOPROPYL BETAINE (30% aq.)	20.00
	DECYL GLUCOSIDE (40% aq.)	5.60
	HYDROXYETHYL UREA (50% aq.)	5.00
Total		100.00

<Procedure>

1. Heat A to 85 °C and dissolve it while mixing uniformly (90 min.)
2. Add B to 1 while mixing by a disper mixer
3. Cool 2 to 25 °C while mixing slowly by a disper mixer



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http://www.nissin-oilio.com/company/fc/products_en/index.html

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