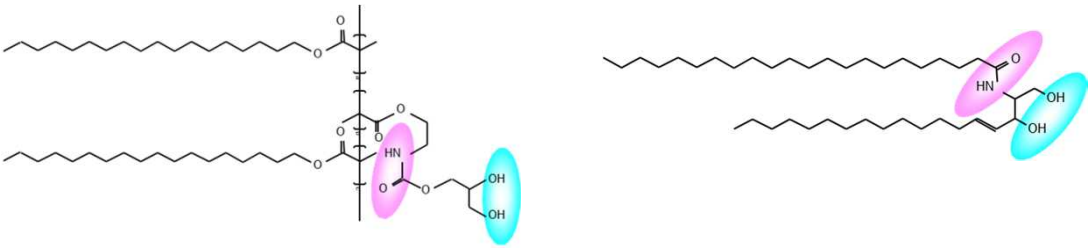
2017.10(Ver.2)

Ceracute®-F、L(Skin-Care)

日油株式会社
油化事業部

1 What is Ceracute®

Ceracute® is the NOF' s novel functional polymer designed imitating natural Ceramide which is main component of intracellular lipids.



Chemical Structure of Ceracute® and natural Ceramide (Ceramide2)

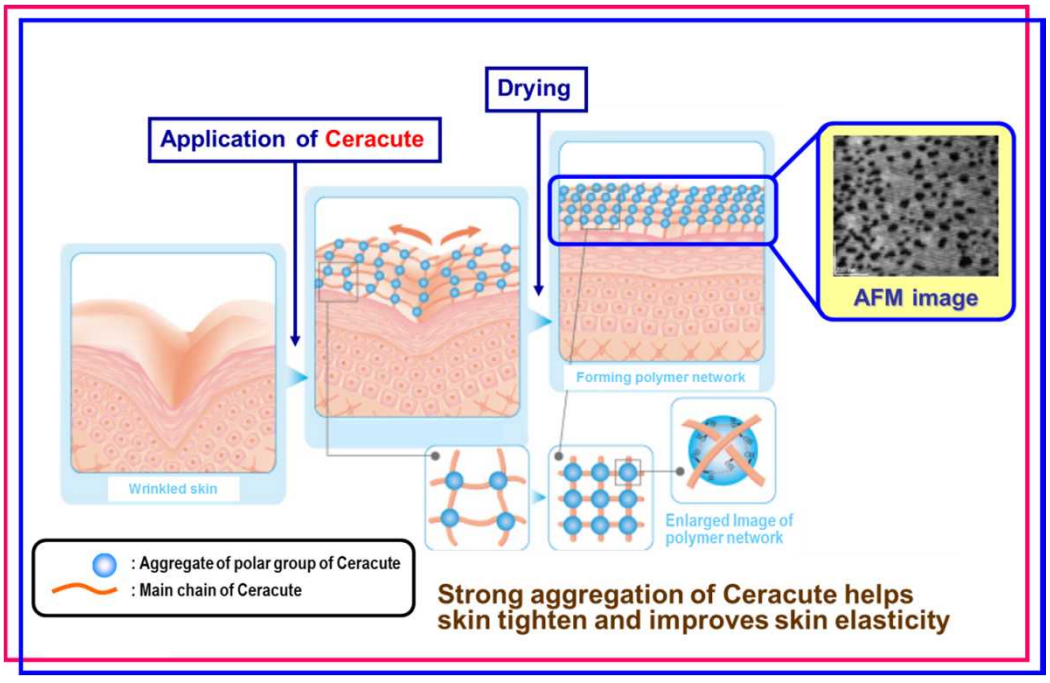
2 Feature of Ceracute®

① Anti-wrinkle efficacy because Ceracute® film is shrunk creating the hydrogen bond among polymer molecules.

② Anti-sagging efficacy because the film soften just below body temperature.

③ No strained feelings due to flexibility of Ceracute film.

④ Good affinity to skin and hair due to ceramide-mimetic structure.

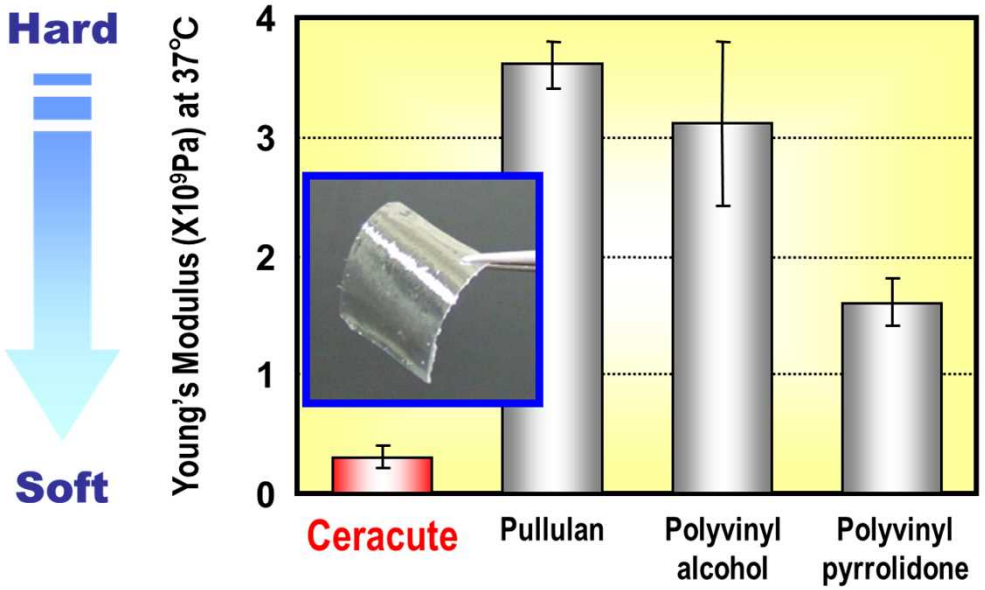


3 Lineup of Ceracute®

Product	INCI Name
Ceracute®-F	Glycerylamidoethyl Methacrylate / Stearyl Methacrylate Copolymer
Ceracute®-L (5% active)	Glycerylamidoethyl Methacrylate / Stearyl Methacrylate Copolymer, Glycerin, Butylene Glycol

4 Film Property

Elastic modulus of films

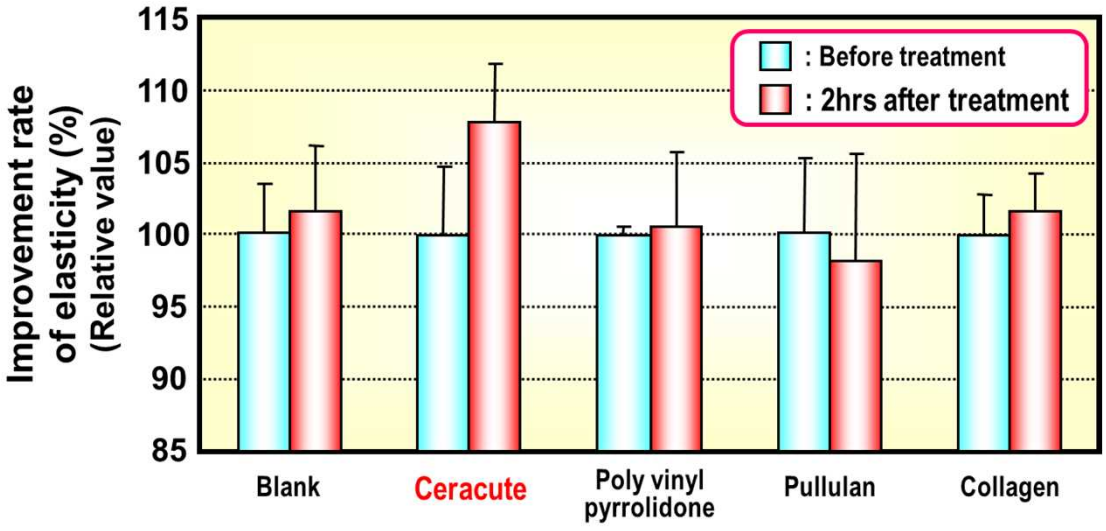


Ceracute® forms more flexible film than conventional polymers

5 Skin Elasticity

【Test Method】

1. Application of polymer solution (1.0 wt%)
2. Measurement of skin elasticity after 2 hours from the treatment # Instrument : Cutometer (Analysis method : P mode)



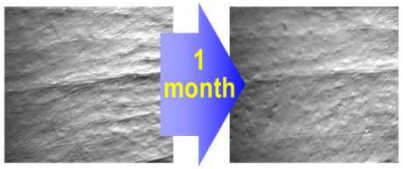
Ceracute® quickly improves skin elasticity

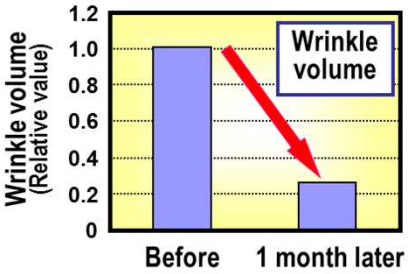
6 Anti-Wrinkle Effect (Continuous Application)

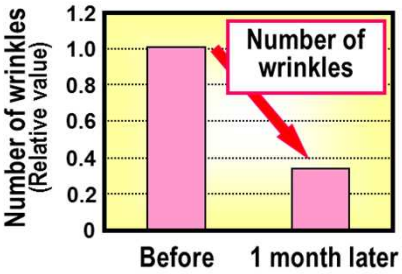
【Test Method】

1. Application of 20 wt% Ceracute-L aq. dispersion on eye area of 8 female volunteers (twice/day)
2. Making replicas of wrinkles after 1 month
3. Evaluation of the replica by the method of 3D imaging analysis

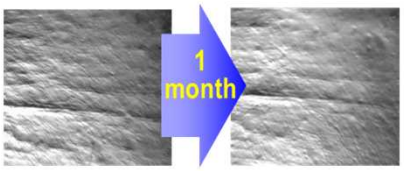
Ceracute

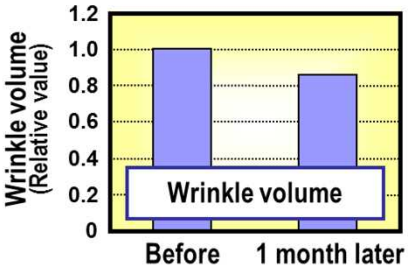


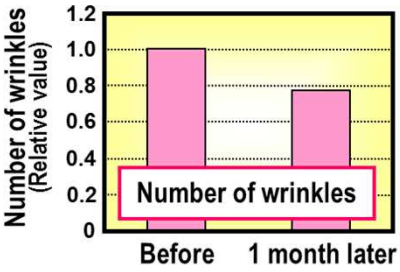




Placebo



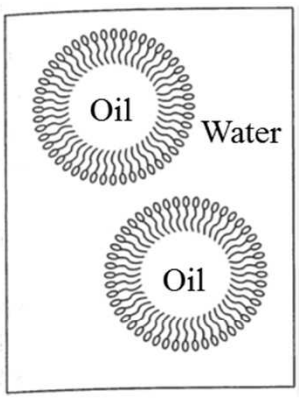




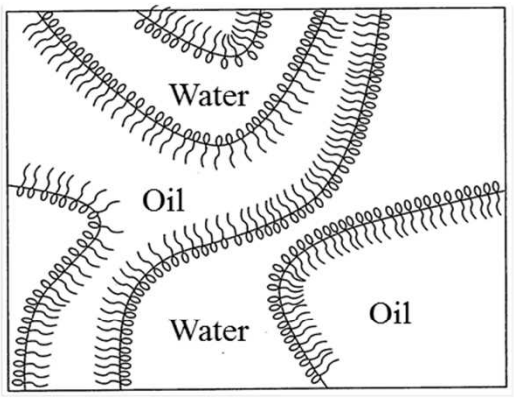
Anti-wrinkle effect of Ceracute® increases by continuous application

7 Preparation of Ceracute® Nano-Particle by BCME technology

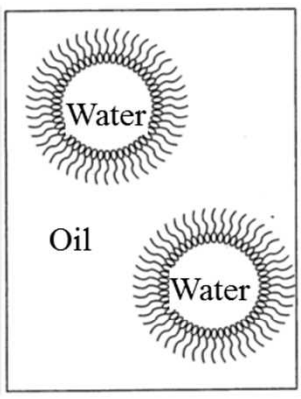
The kind of micro-emulsion



O/W type



Bycontinuous type(BCME)



W/O type

Feature

- Ultralow interfacial tension
- Ability to solubilize both aqueous and oil

Application

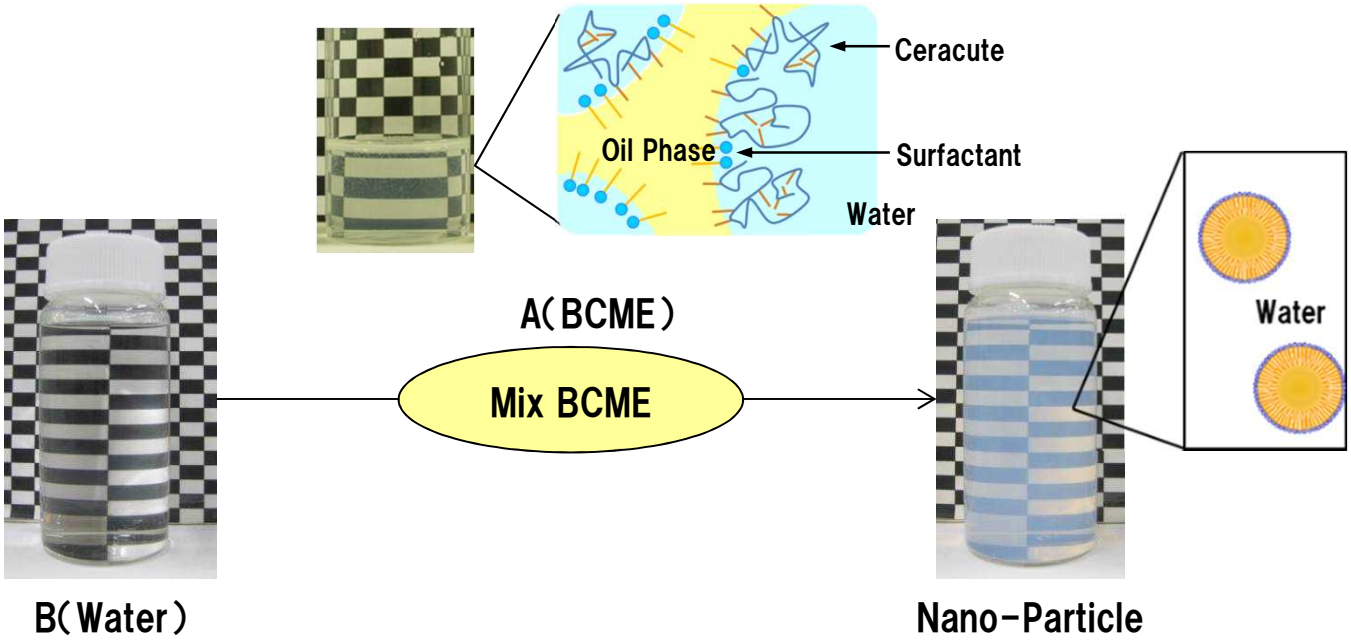
- Make-up remover
- Nano-emulsion

Formulation of Ceracute® Nano-Particle

【Preparation Method】

① Mix A phase at 80℃
② Add A phase into B phase and mix uniformly at R.T.

Product			INCI Name	wt%
A	1	Ceracute®-L	Glycerylamidoethyl Methacrylate / Stearyl Methacrylate Copolymer, Glycerin, Butylene Glycol	2.0
	2	-	Glycerin	0.8
	3	-	Water	0.4
	4	-	PEG-20 Phytosterol	0.5
	5	-	Macadamia Ternifolia Seed Oil	0.3
	6	Parleam® 4	Hydrogenated Polyisobutene	0.2
B	7	-	(Preservatives, pH adjuster)	q.s.
	8	-	Water	Balance
			Total	100.0



Various oils can be capsuled when combined with BCME technology

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