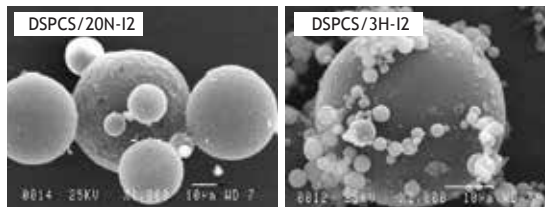


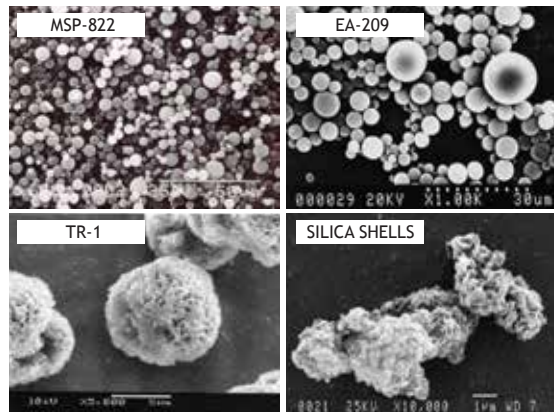
Microspheres

& Surface Treated Microspheres Europe Program

Microspheres are discrete spherical particles ranging in average particle size from 1 to 30 microns. Because of their size and shape, Microspheres are able to **scatter light** to diminish the look of fine lines on the skin. This effect is also known as “optical blurring” or “soft focus”. In addition, Microspheres offer a **ball-bearing effect** which will impart finished products with an elegant silky texture, increased payoff, and enhanced slip. This ball-bearing effect promotes better blendability on the skin and a more natural finish. Some microspheres also act as **carriers for oils** and can be used for **sebum control**.



Microsphere Complexes are produced using Kobo's patented technology, Isopropyl Titanium Triisostearate treatment, that covalently bonds two unlike materials, at least one of which being a spherical particle, to yield a complex that has the best **balance of properties** possible. They offer all the benefits of microspheres while bringing a lightweight feel to many other product forms.



Since they can be used in all product forms (powders, anhydrous hot pours, emulsions, etc ...), microspheres and microsphere complexes, whether used individually or in combination, have become indispensable to formulation of state-of-the-art cosmetic products.

Moisturizing Lotion with Microspheres

KFL-010

Part 1

- SF 1528 - Momentive: *Cyclopentasiloxane (and) PEG/PPG-20/15 Dimethicone* 11.50%
- SF1202 - Momentive: *Cyclopentasiloxane* 8.50%
- SF1214 - Momentive: *Cyclopentasiloxane (and) Dimethicone* 7.50%
- *Fragrance* - Bell Flavors & Fragrances 0.10%

Part 2

- **EA-209** - Kobo Products: *Ethylene/Acrylic Acid Copolymer* 7.50%

Part 3

- *Deionized Water* 50.60%
- Dowicil 200 -Dow Chemical: *Quaternium-15* 0.10%
- RITAbate 80 - RITA Corp.: *Polysorbate 80* 0.20%
- *Sodium Chloride* 1.00%
- *Glycerin* 13.00%

Manufacturing Procedure

Use explosion-proof mixers and equipment during batching process

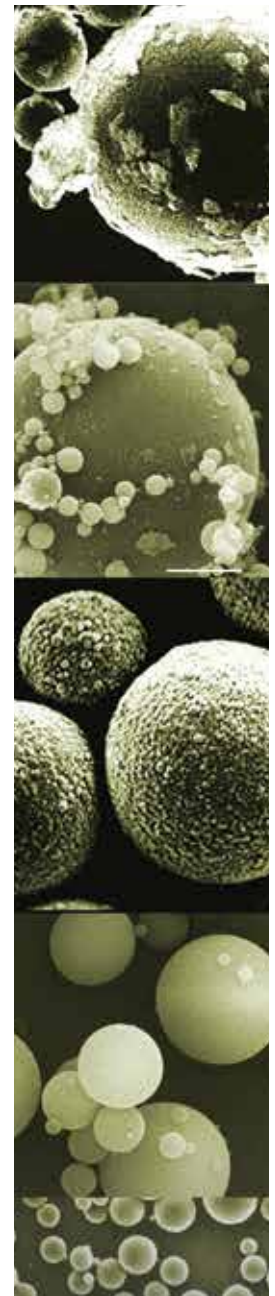
1. Combine Part 1 liquid ingredients into main tank and homogenize for 15 minutes.
2. Sift in EA-209 slowly. Continue homogenization for 15 minutes after complete addition of microsphere.
3. In a side container using propeller agitation, mix Part 3 ingredients until solution is homogenous and clear. Add Part 3 to main tank in quarter parts mixing at least 15-20 minutes between each addition. ****Batch temperature will increase while mixing.****
4. When batch appears homogenous, fill into appropriate containers.

Description

This formula was panel tested and shows a high degree of perceived moisturization, combined with an 'illuminating glow' and 'natural look'. Kobo's EA-209 Microsphere is responsible for achieving these effects within a water-in-silicone base.

Specifications

Viscosity: RVTC @ 2.5 rpm, 24hr = 312,000cps
Stability: 4 weeks @ 50 °C



KOBO

Kobo Products, Inc.
3474 So. Clinton Ave.
So. Plainfield, NJ 07080
USA
tel +1 (908) 757-0033
fax +1 (908) 757-0905

Kobo Products, SAS
135 Rue Buissonniere
Quartier Bouysset
31670 LABEGE
France
tel +33 (0)5-62-88-77-40
fax +33 (0)5.62.88.77.49

Kobo Brasil Ltda.
Rua Bamboré n.41
Ipiranga - São Paulo/SP
04278-060
Brasil
Tel: +55 (11) 5062-0634

Microspheres

	Trade Name	INCI Name	Size (µm)	Oil Abs* (g/100g)	Refract Index	Bulk Density (g/in ³)
Polymer Microspheres	MST-203	Polymethylsilsesquioxane	2	50	1.41	6.5
	MST-547	Polymethylsilsesquioxane	4.5	54	1.41	7.0
	DIASPHERE® KS-500	Polymethylsilsesquioxane	5	96	1.41	7.0
	DIASPHERE® KS-1000	Polymethylsilsesquioxane	10	50	1.41	5.0
	New SESQ-ML5	Polymethylsilsesquioxane	6	50	1.42	8.8
	New SESQ-White1	Polymethylsilsesquioxane (And) Polyphenylsilsesquioxane	8	34	1.49	7.1
	MSP-930	Methyl Methacrylate Crosspolymer	7	59	1.49	6.4
	MSP-825	Methyl Methacrylate Crosspolymer	8	57	1.49	6.7
	MSP-822	Polymethyl Methacrylate	9	48	1.49	5.3
	SPHERICAL THERMOPLASTIC POWDER SE-3107A**	Ethylene/Methacrylate Copolymer	12	62	1.49	3.1
	EA-209**	Ethylene/Acrylic Acid Copolymer	10	60	1.51	2.6
	CL-2080**	Polyethylene	11	60	1.51	4.0
	BPD-500W	HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica	11	60	1.52	8.2
	TR-1	Nylon-6	13	112	1.53	4.0
	TR-2	Nylon-6	20	141	1.53	3.5
	SP-500	Nylon-12	5	60	1.53	4.7
SP-10	Nylon-12	10	60	1.53	6.2	
Mineral Microspheres	MSS-500/3	Silica	3	135	1.47	3.5
	MSS-500/3H	Silica	3	300	1.47	1.3
	MSS-500/3N	Silica	5.5	33	1.47	6.1
	MSS-500	Silica	12	133	1.47	5.8
	MSS-500W+	Silica	12	119	1.47	6.2
	MSS-500/H	Silica	12	300	1.47	3.1
	MSS-500/N	Silica	11.5	38	1.47	6.7
	MSS-500/20N	Silica	20	40	1.47	12.9
	SILICA SHELLS	Silica	3	490	1.47	0.8
	New FLORITE PS-10	Calcium Silicate	10	434	1.63	1.1
FLORITE R	Calcium Silicate	29	650	1.63	1.2	
Surface-Treated Microspheres	MST-547-FS	Polymethylsilsesquioxane (And) Perfluorooctyl Triethoxysilane	4	47	-	6.3
	MSS-500-NS5	Silica (And) Methoxy Amodimethicone/Silsesquioxane Copolymer	14	105	-	8.5
	MSS-500N-FS	Silica (And) Perfluorooctyl Triethoxysilane	8	24	-	14.4
	SILICA SHELLS-SH	Silica (And) Methoxy Amodimethicone/Silsesquioxane Copolymer	3	500	-	0.7
	CELLULOBEADS D-10-PC2**	Cellulose (And) Hydrogenated Lecithin	11	35	-	5.1
	BPA-515	Polymethyl Methacrylate (And) Isopropyl Titanium Triisostearate	9	50	-	3.8
	Nylon 10-12	Nylon-12 (And) Isopropyl Titanium Triisostearate	8	56	-	3.5
	SP-10-FS	Nylon-12 (And) Perfluorooctyl Triethoxysilane	9	60	-	4.4

** Natural Treatment

* Oil Abs: ASTM, D281-84

** EA-209 & CL-2080 are heat sensitive and will gel if heated above 70° C. SE-3107A have a softening point of 80° C and should not be added under this temperature

This chart was prepared to assist in formulating with Microspheres and Microsphere Complexes. The information contained herein is believed to be accurate at the time of printing, but should not be used as a substitute for product specification sheets.



COSMOS APPROVED

+ Raw material approved by Ecocert in accordance with the Cosmos and Ecocert Standards

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