

# Microspheres

**Microspheres** are discrete spherical particles ranging in average particle size from 1 to 50 microns.

Because of their size and shape, 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.

Microspheres are also able to **scatter light** to diminish the look of fine lines on the skin, while letting enough light through so the look of the skin is natural. This phenomenon is known as "Soft Focus Effect" or "Optical Blurring."

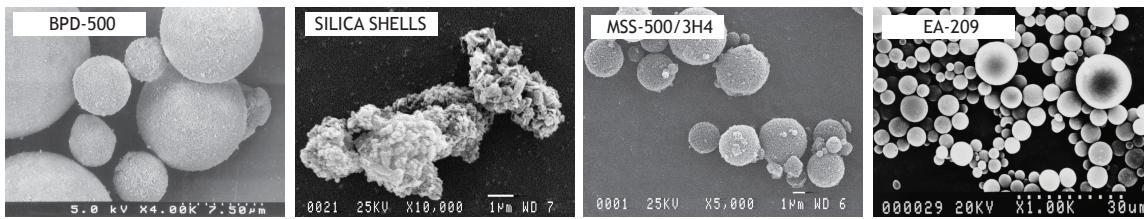
Some Microspheres are porous and have a high oil absorption capacity: they can act as

**carriers** to absorb and deliver materials, and can be used for **sebum control**.

A special use of Microspheres is in mascaras. The non-absorbent grades of silicas of different diameters have a **volumizing effect**, with minimum absorbency.

**CELLULOBEADS** are hydrophilic Microspheres made of cellulose which have a high capacity to absorb moisture. They are also available colored with inorganic colorants.

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



## Wrinkle & Line Minimizer

KFL-011

### Part 1

• <b>SF1528</b> - Momentive/Kobo Products: Cyclopentasiloxane (and) PEG/PPG-20/15 Dimethicone	11.50%
• <b>SF1202</b> - Momentive/Kobo Products: Cyclopentasiloxane	8.50%
• <b>SF1214</b> - Momentive/Kobo Products: Cyclopentasiloxane (and) Dimethicone	7.50%
• Fragrance - Bell Flavors & Fragrances	0.10%

### Part 2

• <b>BPA-500</b> - Kobo Products: Polymethyl Methacrylate	7.50%
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### Part 3

• Deionized Water	50.60%
• Dowicil 200 - Dow Chemical: Quaternium-15	0.10%
• RITAbeate 80 - RITA Corp.: Polysorbate 80	0.20%
• Sodium Chloride - Morton Salt: Sodium Chloride	1.00%
• Glycerin U.S.P Natural 96% - Univar USA Inc.: 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 BPA-500 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 the batch is homogenous, fill into appropriate units.

## Pressed Powder with TR-1

KPP-011

### Part 1

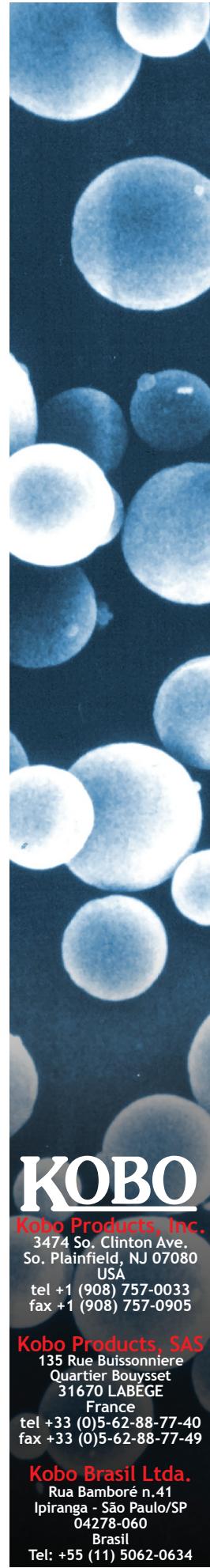
• <b>Talc N/MM3</b> - Kobo Products: Talc (And) Magnesium Myristate	71.50%
• <b>TR-1</b> - Toray / Kobo Products: Nylon-6	8.00%
• <b>BTD-1152</b> - Kobo Products: Titanium Dioxide (And) Triethoxycaprylylsilane	7.00%
• <b>ZINC STEARATE</b> - Kobo Products: Zinc Stearate	5.00%
• <b>BYO-1152</b> - Kobo Products: Iron Oxides (C.I. 77492) (And) Triethoxycaprylylsilane	1.25%
• <b>BRO-1152</b> - Kobo Products: Iron Oxides (C.I. 77491) (And) Triethoxycaprylylsilane	1.00%
• <b>BBO-1152</b> - Kobo Products: Iron Oxides (C.I. 77499) (And) Triethoxycaprylylsilane	0.25%

### Part 2

• <b>ELEMENT14 PDMS-20</b> - Momentive/Kobo Products: Dimethicone	2.00%
• LEXOL PG-865 - Inolex: Propylene Glycol Dicaprylate/Dicaprate	2.00%
• <b>ELEMENT14 PDMS 350</b> - Momentive/Kobo Products: Dimethicone	1.40%
• <b>SS4267</b> - Momentive/Kobo Products: Dimethicone (And) Trimethylsiloxysilicate	0.60%

### Manufacturing Procedure

1. Pass the premixed Part 1 through pulverizer until color is fully developed.
2. Add Part 2 and blend well. Do not overheat.
3. Press at 500 psi.



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# Microspheres

	Trade Name	INCI Name	Size (µm)	Oil Abs* (g/100g)	Refract Index	Bulk Density (g/in³)
Polymer Microspheres	EA-209**	Ethylene/Acrylic Acid Copolymer	10	60	1.51	2.6
	Flo-Beads SE-3107A (Softbeads A)**	Ethylene/Methacrylate Copolymer	12	62	1.49	3.1
	BPD-800	HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica	7	63	1.52	6.4
	BPD-500	HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica	15	65	1.52	9.5
	BPD-500T	HDI/PPG/Polycaprolactone Crosspolymer (And) Silica	13.5	58	1.52	8.2
	BPA-500	Polymethyl Methacrylate	10	55	1.49	5.2
	BPA-500X	Methyl Methacrylate Crosspolymer	7	58	1.49	6.7
	MSP-822	Polymethyl Methacrylate	9	48	1.49	5.3
	MSP-930	Methyl Methacrylate Crosspolymer	7	59	1.49	6.4
	TR-1	Nylon-6	13	112	1.53	4.0
	TR-2	Nylon-6	20	141	1.53	3.5
	New POMP900	Nylon-6	9	172	1.53	2.9
	SP-10	Nylon-12	10	60	1.53	6.2
	SP-500	Nylon-12	5	60	1.53	4.7
	DAIAMID MSP-100	Nylon-12	7.5	34	1.53	3.1
	New DAIAMID MSP-BIO	Nylon-10/10	10	59	-	3.8
	DAIAMID MSP-S	Laurolactam/Poly(1,4-Butanediol)-14/Dodecanedioic Acid Copolymer	12	66	1.5	2.9
	CL-2080**	Polyethylene	11	60	1.51	4.0
	New ECOBEADS D-1	Polylactic Acid (And) Polyglyceryl-5 Laurate	4	96	1.46	1.6
	New ECOBEADS D-5*	Polylactic Acid	12	54	1.46	3.2
	New DIASPHERE® KS-500	Polymethylsilsesquioxane	4.5	96	1.46	7.0
	New DIASPHERE® KS-1000	Polymethylsilsesquioxane	10	50	1.41	5.0
	New MST-203	Polymethylsilsesquioxane	2	50	1.41	6.5
	New MST-547	Polymethylsilsesquioxane	4.5	54	1.41	7.0
	TOSPEARL® 145A***	Polymethylsilsesquioxane	5	55	1.41	8.2
	TOSPEARL® 2000B***	Polymethylsilsesquioxane	6	54	1.41	8.5
	TOSPEARL® 3000A***	Polymethylsilsesquioxane	5.5	54	1.41	7.0
	TOSPEARL® 150KA***	Polymethylsilsesquioxane	5	68	1.41	6.5
	TOSPEARL® 1110A***	Polymethylsilsesquioxane	11	50	1.41	4.5
	TOSPEARL® 120A***	Polymethylsilsesquioxane	2	57	1.41	6.5
	New SESQ-ML5	Polymethylsilsesquioxane	6	50	1.42	8.8
	New SESQ-MH5	Polymethylsilsesquioxane (And) Silica	6	66	1.42	8.4
Silica Microspheres	MSS-500	Silica	12	133	1.47	5.8
	MSS-500W*	Silica	12	119	1.47	6.2
	MSS-500/N*	Silica	11.5	38	1.47	6.7
	MSS-500/7N	Silica	7.5	50	1.47	7.5
	MSS-500/H	Silica	12	300	1.47	3.1
	MSS-500/3	Silica	3	135	1.47	3.5
	MSS-500/3N	Silica	5.5	33	1.47	6.1
	MSS-500/3H*	Silica	3	300	1.47	1.3
	MSS-500/3H4	Silica	2.5	318	1.47	1.2
	MSS-500/20N	Silica	20	40	1.47	12.9
	SILICA SHELLS*	Silica	3	-	1.47	0.8
	FLORITE R	Calcium Silicate	29	650	1.63	1.2
	New FLORITE PS-10	Calcium Silicate	10	434	1.63	1.1
Cellulose Microspheres	CELLULOBEADS D-5	Cellulose	5	70	1.49	9.7
	CELLULOBEADS D-10*	Cellulose	10	60	1.49	11.6
	CELLULOBEADS D-30	Cellulose	30	60	1.49	13.3
	CELLULOBEADS D-50	Cellulose	40	56	1.49	14.9
	New CELLULOBEADS USF*	Cellulose	5.5	184	1.49	2.7
	CELLULOBEADS D-10(R-33P)	Cellulose (And) Iron Oxides (C.I. 77491)	10	48	-	9.9
	CELLULOBEADS D-10(Y-33P)	Cellulose (And) Iron Oxides (C.I. 77492)	10	42	-	10.3
	CELLULOBEADS D-10(UB-33)	Cellulose (And) Iron Oxides (C.I. 77499) (And) Silica	10	51	-	10.8
	CELLULOBEADS D-10(Ti-33)	Cellulose (And) Titanium Dioxide (And) Aluminum Hydroxide	10	41	-	10.4

\*Ecocert Approved

\* Oil Abs: ASTM, D281-84

\*\* EA-209 & CL-2080 are heat sensitive and will gel if heated above 70° C. Softbeads A have a softening point of 80° C and should be added under this temperature.

\*\*\* Note: TOSPEARL® 120A, TOSPEARL® 145A, TOSPEARL® 150KA, TOSPEARL® 2000B, TOSPEARL® 3000A are registered trademarks of Momentive

This chart was prepared to assist in formulating with Microspheres. 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.



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