

# 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."

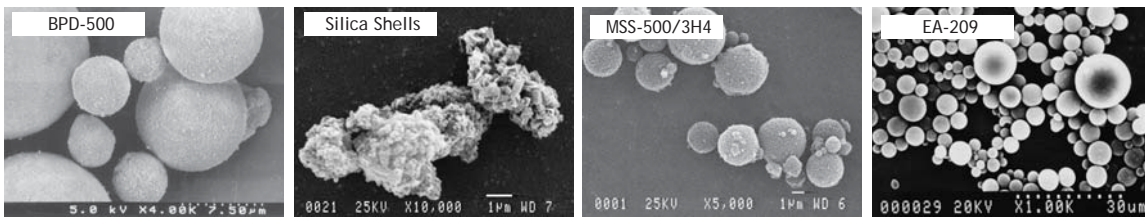
Some Microspheres are porous and have a high oil absorption capacity: they can act as

**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.

**Cellulo Beads** 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

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

### Part 2

- **BPA-500** - Kobo Products: Polymethyl Methacrylate 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** - 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

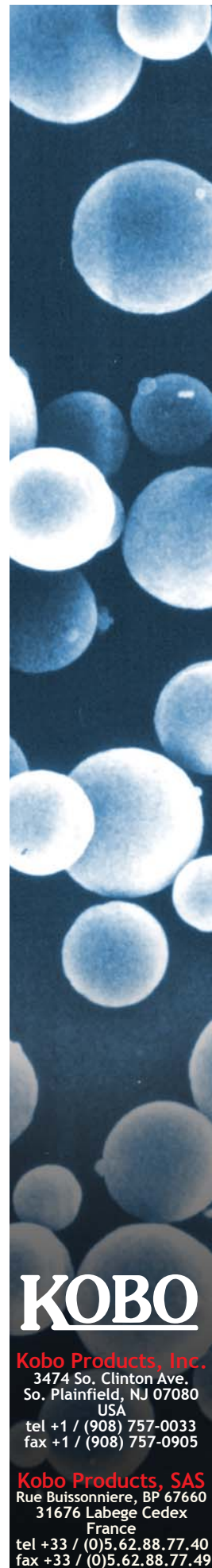
- **Talc N/MM3** - Kobo Products: Talc (And) Magnesium Myristate 71.50%
- **TR-1** - Toray / Kobo Products: Nylon-6 8.00%
- **BTD-11S2** - Kobo Products: Titanium Dioxide (And) Triethoxycaprylylsilane 7.00%
- **ZINC STEARATE** - Kobo Products: Zinc Stearate (And) Triethoxycaprylylsilane 5.00%
- **BYO-11S2** - Kobo Products: Iron Oxides (C.I. 77492) (And) Triethoxycaprylylsilane 1.25%
- **BRO-11S2** - Kobo Products: Iron Oxides (C.I. 77491) (And) Triethoxycaprylylsilane 1.00%
- **BBO-11S2** - Kobo Products: Iron Oxides (C.I. 77499) (And) Triethoxycaprylylsilane 0.25%

### Part 2

- **SF96-20** - Momentive/Kobo Products: Dimethicone 2.00%
- **LEXOL PG-865** - Inolex: Propylene Glycol Dicaprylate/Dicaprate 2.00%
- **ELEMENT14 PDMS 350** - Momentive/Kobo Products: Dimethicone 1.40%
- **SS4267** - Momentive/Kobo Products: Dimethicone (And) Trimethylsiloxy silicate 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.



# 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**  
Rue Buissonniere, BP 67660  
31676 Labege Cedex  
France  
tel +33 / (0)5.62.88.77.40  
fax +33 / (0)5.62.88.77.49

# Microspheres

	Trade Name	INCI Name	Size (µm)	Oil Abs (g/100g)	Refract Index	Density (g/in <sup>3</sup> )
Polymer Microspheres	EA-209**	Ethylene/Acrylic Acid Copolymer	10	60	1.51	2.6
	Flo-Beads SE-3107A (Softbeads A)**	Ethylene/Methacrylate Copolymer	11	62	1.49	3.12
	Flo-Beads SE-3207B (Softbeads B)**	Ethylene/Methacrylate Copolymer	11.6	62	1.49	3.9
	BPD-800	HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica	6.5	63	1.52	6.4
	BPD-500	HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica	12	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	8.8	60	1.49	6.2
	MSP-825	Methyl Methacrylate Crosspolymer	8	57	1.49	6.7
	MSP-930	Methyl Methacrylate Crosspolymer	9	210	1.49	5.0
	MSPH-1215	Methyl Methacrylate Crosspolymer	11.7	380	1.49	N.A.
	New PL Powder	Polylactic Acid	6.5	42	N.A.	4.0
	TR-1	Nylon-6	13	112	1.53	4.0
	TR-2	Nylon-6	20	141	1.53	3.5
	POMP605	Nylon-6	6	170	1.53	3.28
	POMP610	Nylon-6	11	180	1.53	2.8
	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
	DAIAMID MSP-S	Pending: Nylon-12/Polytetramethyleneglycol Copolymer	12.4	66	1.5	2.9
	CL-2080**	Polyethylene	12	60	1.51	4.0
	TOSPEARL® 1110A *	Polymethylsilsesquioxane	11	50	1.41	4.5
	TOSPEARL® 120A *	Polymethylsilsesquioxane	1.85	57	1.41	6.5
	TOSPEARL® 145A *	Polymethylsilsesquioxane	4.75	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	6.55
	New MSP-AS04	Polymethylsilsesquioxane (And) Alumina	3	44	N.A.	6.2
	New MSP-AK06	Polymethylsilsesquioxane (And) Alumina	6	54	N.A.	6.2
New Silcrusta MK03	Methyl Methacrylate Crosspolymer (And) Polymethylsilsesquioxane	3	72	N.A.	4.7	
Silica Microspheres	MSS-500	Silica	12	133	1.47	5.8
	MSS-500W	Silica	12	119	1.47	6.2
	MSS-500/N	Silica	12	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	3	33	1.47	6.1
	MSS-500/3H	Silica	3	300	1.47	1.3
	MSS-500/3H4	Silica	3	318	1.47	1.2
	MSS-500/20N	Silica	20	40	1.47	12.9
	Silica Shells	Silica	3	N.A.	1.47	0.8
	Sunsil-130L	Silica	7	72	1.47	6.9
	ST-255	Silica (And) Titanium Dioxide	5	84	1.80	7.0
	STNW-355	Silica (And) Titanium Dioxide (And) Triethoxycaprylylsilane	6.5	76	-	6.5
Cellulose Microspheres	Cellulo Beads D-5	Cellulose	5	70	1.49	9.7
	Cellulo Beads D-10	Cellulose	10	60	1.49	11.6
	Cellulo Beads D-30	Cellulose	30	60	1.49	13.3
	Cellulo Beads D-50	Cellulose	40	56	1.49	14.9
	Cellulo Beads D-200	Cellulose	175	50	1.49	16.4
	Cellulo Beads D-10(R-33P)	Cellulose (And) Iron Oxides (C.I. 77491)	10	48	-	9.9
	Cellulo Beads D-10(Y-33P)	Cellulose (And) Iron Oxides (C.I. 77492)	10	42	-	10.3
	Cellulo Beads D-10(UB-33)	Cellulose (And) Iron Oxides (C.I. 77499) (And) Silica	10	51	-	10.8
	Cellulo Beads D-10(Ti-33)	Cellulose (And) Titanium Dioxide (And) Aluminum Hydroxide	10	41	-	10.4

\* Note : TOSPEARL® 1110A, TOSPEARL® 120A, TOSPEARL® 145A, TOSPEARL® 150KA, TOSPEARL® 2000B and TOSPEARL® 3000A are registered trademarks of Momentive

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

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 (N.A. = Not available at the time of printing)

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