Composite Microspheres

USA & Canada Program

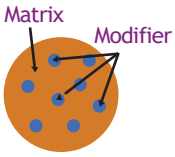
A composite material is made from two or more constituent materials with significantly different physical or chemical properties that, when combined, produce a material with characteristics different from the individual components.

There are several possible structures for building a composite microsphere

- A modifier dispersed in a polymer matrix
- A shell covering a core of a different composition
- A mineral platelet covered with small polymer particles.

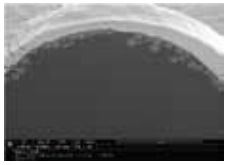
Kobo Products offers a broad range of these novel Composite Microspheres, to allow formulators to take advantage of their unique structures: improved skin feel and affinity, optical blurring, ease of formulation and/or radiance.

Matrix & Modifier Structure



MSP-TK04, NH-RAS06 are Composite Microspheres with a matrix and a modifier, giving them a higher refractive index than regular PMSQ microspheres. Their composition combined with a textured surface makes them ideal for improved skin feel and optical blurring.

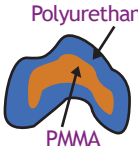
US-450 has small PSMQ particles embedded within the polyurethane matrix at the periphery of the micropshere. It offers HEV protection by attenuating blue light.



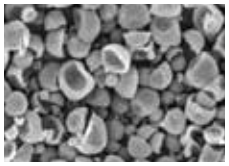
US-450

Trade Name	INCI Name	Size
MSP-TK04	*Polymethylsilsesquioxane (And) Titanium Dioxide*	4 µm
New **NH-RAS06**	*Polymethylsilsesquioxane (And) Alumina*	5 µm
New **US-450**	*HDI/Trimethylol Hexyllactone Crosspolymer (And) Polymethylsilsesquioxane*	18 µm

Semi-Spherical Composite Microspheres

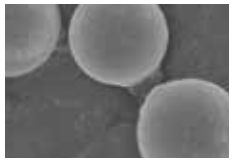


UP-611 are composite microspheres, with a PMMA core and a Polyurethane outer shell, showing a unique, semi-spherical shape. Due to their shape and composition they have been shown to adhere better than spherical particles to the skin, improve color intensity when mixed with pigments and act as SPF boosters in sunscreen products.



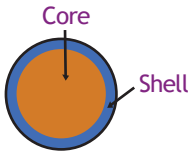
UP-611

Trade Name	INCI Name	Size
UP-611	*HDI/Trimethylol Hexyllactone Crosspolymer (And) Methyl Methacrylate Crosspolymer*	11 µm



SESQ-MH5

SILCRUSTA MK03



Core & Shell Structure

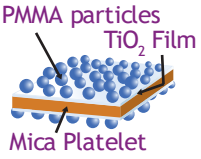
These composites have in common a structure where a shell modifies the physicochemical characteristics of the core material.

SESQ-MH5 has a shell made of silica which renders the PMSQ-core hydrophilic and easily dispersible in water. SILCRUSTA MK03 is based on the same principle, with an MMA Crosspolymer core and a PMSQ textured shell.

Trade Name	INCI Name	Size
SILCRUSTA MK03	*Methyl Methacrylate Crosspolymer (And) Polymethylsilsesquioxane*	4 µm
SESQ-MH5	*Polymethylsilsesquioxane (And) Silica*	6 µm
COMPOSITE POWDER AL-40	*Dimethicone/Vinyl Dimethicone Crosspolymer (And) Alumina*	12 µm

PMMA-Coated Pearls

These products are pearlescent pigments coated with small PMMA particles to limit the specular reflection and create a more natural look. They are used to give radiance and a natural glow to the skin.



Trade Name	INCI Name	Size
SK-45-R	*Polymethyl Methacrylate (And) Mica (And) Titanium Dioxide*	25 µm
New **HV-GOLD**	*Synthetic Fluorphlogopite (And) Titanium Dioxide (And) Polymethyl Methacrylate (And) Tin Oxide (And) Polyvinyl Alcohol*	23 µm
New **HV-RED**		
New **HV-BLUE**		

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KFL-111B

Light Cushioned Blurring Primer

Part 1

• Deionized Water - *Water*	55.40%
• **CES-1104** - Avantor/Kobo Products: *Dimethicone (And) Water (And) Glycerin (And) Pentylene Glycol (And) Dimethicone/Vinyl Dimethicone Crosspolymer (And) Amodimethicone (And) Carbomer (And) Phenoxyethanol (And) Sodium Hydroxide (And) Disodium EDTA*	5.00%
• Butylene Glycol - Ruger Chemical: *Butylene Glycol*	3.00%
• JEECIDE® CAP-7 - Jeen International: Caprylyl Glycol (And) Glyceryl Laurate (And) Glyceryl Undecylenate	1.30%
• **Gs-PPYS** - Kobo Products: *Water (And) Pentylene Glycol (And) Papain (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/Glycerin Crosspolymer (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Hydrogenated Lecithin*	1.00%
• **Gs-GTS** - Kobo Products: *Water (And) Pentylene Glycol (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/Glycerin Crosspolymer (And) Camellia Sinensis Leaf Extract (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Hydrogenated Lecithin*	1.00%

Part 2

• Protachem™ CTG - Protameen: *Caprylic/Capric Triglyceride*	11.00%
• **EA-209** - Sumitomo Seika/Kobo Products: Ethylene/Acrylic Acid Copolymer	5.50%
• **SESQ-MH5** - N&M/Kobo Products: *Polymethylsilsesquioxane (And) Silica*	5.00%
• SALACOS® 99 - Ikeda: *Isononyl Isononanoate*	4.00%
• **BPD-500W** - Kobo Products: *HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica*	3.00%
• Abil® Care XL 80 - Evonik: *Bis-PEG/PPG-20/5 PEG/PPG-20/5 Dimethicone (And) Methoxy PEG/PPG-25/4 Dimethicone (And) Caprylic/Capric Triglyceride*	3.00%
• Liposorb® O - Vantage: *Sorbitan Oleate*	1.00%

Part 3

• Sepigel™ 305 - ChemyUnion/Seppic: *Polyacrylamide (And) C13-14 Isoparaffin (And) Laureth-7*	0.80%

Manufacturing Procedure

1. Combine Part 1 and homogenize.
2. Premix Part 2 and add to Part 1 under homogenization.
3. Add Part 3 and homogenize.

Description

This light-on-the-skin, cushion primer blurs imperfections, fills pores and wrinkles, and gives smoothness to skin to prep the face and extend makeup wear. It features Kobo's Glycospheres Gs-PPYS and Gs-GTS. Active ingredients, papain and green tea polyphenols, are released from the systems to both protect the skin and replenish it. Avantor's CES-1104 is an encapsulated elastomer gel that can be added to the water phase or post emulsification. Upon application the encapsulated CES materials break and offer an initial refreshing feel that is followed by a velvety silicone after feel. Hydrophilic Silicone Resin, SESQ-MH5, offers a smooth application with good payoff and soft focus effect. Microspheres, BPD-500W and EA-209 create a natural blurring effect that minimizes the look of lines and wrinkles and illuminates the skin.

KPP-069K

Pressed Powder with SILCRUSTA MK03

Part 1

• **SERICITE GMS-4C** - Kobo Products: *Mica*	70.48%
• **SILCRUSTA MK03** - Nikko Rica/Kobo Products: *Methyl Methacrylate Crosspolymer (And) Polymethylsilsesquioxane*	10.00%
• **BTD-11S2** - Kobo Products: *Titanium Dioxide (And) Triethoxycaprylylsilane*	7.00%
• **ZINC MYRISTATE (MB)** - Kobo Products: *Zinc Myristate*	2.00%
• **BYO-11S2** - Kobo Products: *Iron Oxides (CI 77492) (And) Triethoxycaprylylsilane*	1.00%
• **BRO-11S2** - Kobo Products: *Iron Oxides (CI 77491) (And) Triethoxycaprylylsilane*	0.86%
• **BBO-11S2** - Kobo Products: *Iron Oxides (CI 77499) (And) Triethoxycaprylylsilane*	0.46%
• Methyl Paraben NF - International Sourcing: *Methylparaben*	0.10%
• Propyl Paraben NF - International Sourcing: *Propylparaben*	0.10%

Part 2

• Lexol® PG-865 - Inolex Chemical Company: *Propylene Glycol Dicaprylate/Dicaprate*	2.50%
• Xiameter® PMX-200 Silicone Fluid 20CS - Dow Coming: *Dimethicone*	2.50%
• Xiameter® PMX-200 Silicone Fluid 350 CS - Dow Coming: *Dimethicone*	2.00%
• SS4267 - Momentive: *Dimethicone (And) Trimethylsiloxysilicate*	1.00%

Manufacturing Procedure

1. Micropulverize Part 1 until color is fully developed.
2. Add Part 2 to Part 1.
3. Blend well.
4. Press at 500 psi.

Description

This formula is part of a series that shows how important Microspheres are in pressed powder formulas. Each type and size of Microsphere gives the formula a different feel. This pressed powder formula contains Kobo's **SILCRUSTA MK03**, Methyl Methacrylate Crosspolymer Microsphere, used for optical enhancing to accentuate the skin with a natural appearance while hiding imperfections such as fine lines and wrinkles. SERICITE GMS-4C is added to give a glide-on application. Kobo's 11S treatment helps to provide this pressed powder with adhesion to the skin and gives the formula a creamy feel. ZINC MYRISTATE (MB) also contributes to great feel and adherence on the skin and acts as a dry binder.