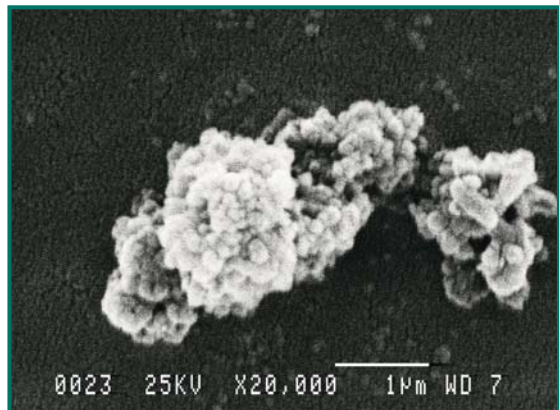


Silica Shells

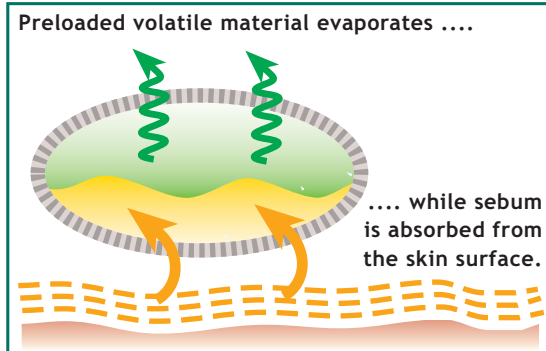
Microreservoirs for controlled entrapment and release

Silica Shells are hollow ellipsoids of highly porous silica. They have a very high absorption capacity, up to **7 times** their own weight.



SEM picture of Silica Shells

To prevent absorption of formula ingredients by Silica Shells, they can be preloaded with a volatile liquid. When applied onto the skin, this volatile material will evaporate, leaving Silica Shells empty and available to absorb sebum.



Schematic representation of how Silica Shells may help oil control treatments.

Hydrophobic Silica Shells

For an easier formulation in oil phases, amino silicone treated Silica Shells have been developed (Silica Shells-SH; INCI name : Silica (And) Methoxy Amodimethicone/Silesquioxane Copolymer) . Since amino-silicone treatment has excellent hydrophobicity, it will absorb excess sebum without affecting any moisture on the skin (patented by Kobo).

Shine-Control Facial Lotion

Formula KFL-001A

Part 1

- SF1528 - Momentive* : Cyclopentasiloxane (and) PEG/PPG-20/15 Dimethicone 10.00%
- SF1202 - Momentive* : Cyclopentasiloxane 20.00%
- SFE839 - Momentive* : Cyclopentasiloxane (and) Dimethicone /Vinyl Dimethicone Crosspolymer 10.00%
- SF1550 - Momentive* : Phenyl Trimethicone 10.00%

Part 2

- SF1642 - Momentive* : C30-45 Alkyl Dimethicone 2.00%
- Tospearl 145A - Momentive* : Polymethylsilsesquioxane 5.00%

Part 3

- Water 40.30%
- Silica Shells - Kobo Products : Silica 1.50%
- RITABate 20 - RITA Corp. : Polysorbate-20 0.20%
- Sodium Chloride - Morton Salt : Sodium Chloride 1.00%
- Preservative and Fragrance q.s 100%

* Kobo is an authorized distributor of Momentive Performance Materials

Manufacturing Procedure

Use explosion-proof mixers and equipment during batching process.

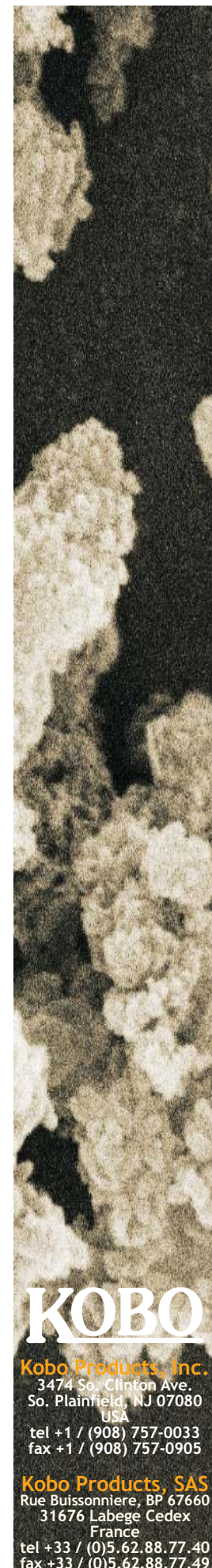
1. Combine the ingredients of Part 1, in order shown,thoroughly mixing each component until homogenous before adding the next ingredient. Use a homogenizer for the entire pro cess.
2. When the mixture is homogenous, heat to 60-65°C and add SF 1642 and Tospearl 145A (Part 2).
3. In a separate vessel combine ingredients of Part 3 in order shown.
4. Slowly add Part 3 to Part 1/2 and mix well.
5. Pour into suitable containers.

Description

This formulation demonstrates the use of SF1642, silicone alkyl copolymer, as a thickening agent. Additionally, it offers excellent lubricity and a smooth silky feel. SF1550 silicone fluid provides premium compatibility with organic ingredients allowing formulation flexibility and enhancement. SF1528, silicone emulsifier, is superior for cold processing emulsification. SF1528 provides high aesthetics, a uniform film, and aids in pigment

actives dispersibility. SFE839 is a 5.5% elastomer dispersed in cyclopentasiloxane, which creates a smooth luxurious feel. The SFE839 blend is an superb film former and provides a more durable product. Tospearl 145A is a fine particle silicone resin.

The sub-micron spherical acts as "ball-bearings" providing superior slip and lubricity. The silica shells will aid in absorbing excess perspiration and sebum from the skin.



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