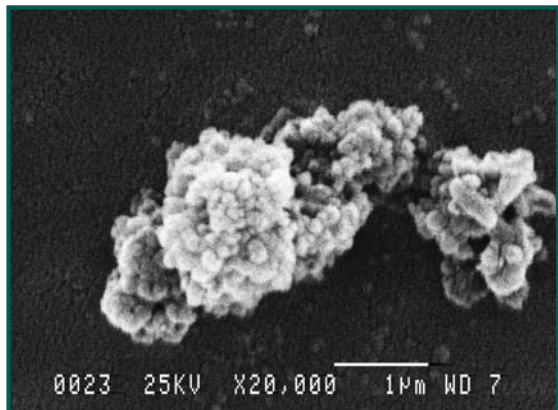


Silica Shells

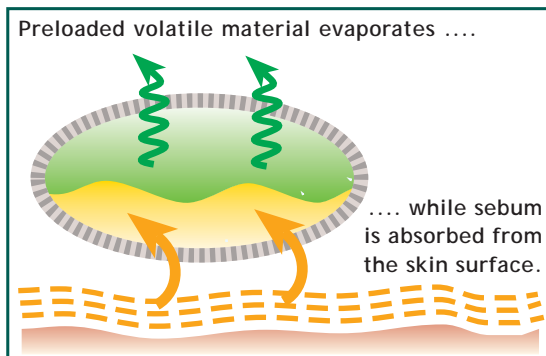
Microreservoirs for controlled entrapment and release

Silica Shells are hollow ellipsoids of highly porous silica. They have a very high absorption capacity, up to **5 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/Silsesquioxane 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-001B

Part 1

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

Part 2

- TOSPEARL 145A - Momentive/Kobo Products: Polymethylsilsesquioxane 5.00%
- SF1642 - Momentive/Kobo Products: C30-45 Alkyl Dimethicone 2.00%

Part 3

- Deionized Water 39.30%
- SILICA SHELLS - Kobo Products: Silica 1.50%
- Sodium Chloride - Morton Salt: Sodium Chloride 1.00%
- Germaben® II - Ruger Chemical Co., Inc.: Propylene Glycol (And) Diazolidinyl Urea (And) Methylparaben (And) Propylparaben 1.00%
- RITAbate 20 - RITA Corp.: Polysorbate-20 0.20%

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 process.
2. When the mixture is homogenous, heat to 60-65°C and add Tospearl 145A and SF1642 (Part 2).
3. In a separate vessel combine ingredients of Part 3 in order shown.
4. Slowly add Part 3 to Parts 1 and 2 and mix well.
5. Pour into suitable containers.

Description

This face lotion formulation demonstrates the use of SF1642 as a thickening agent. It offers excellent lubricity and a smooth, silky feel due to Tospearl 145A's sub-micron sphericals, which act as "ball-bearings". SF1550 provides premium compatibility with organic ingredients, allowing formulation flexibility and enhancement. SF1528 is superior for cold processing emulsification, provides high aesthetics and a uniform film, and aids in pigment actives dispersibility. SFE839 is a 5.5% elastomer dispersed in Cyclopentasiloxane, which creates a smooth luxurious feel. SFE839 is a superb film-former and provides a more durable product. Silica Shells will aid in absorbing excess perspiration and sebum from the skin.

KOBO

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