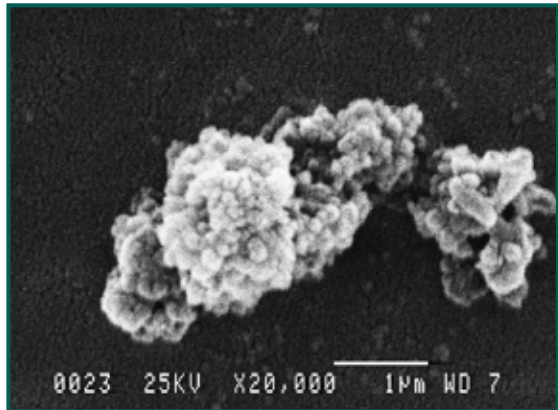


# SILICA SHELLS

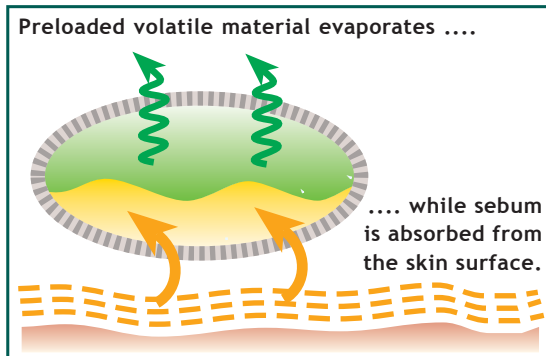
## Microreservoirs for controlled entrapment and release

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-SH

For an easier formulation in oil phases, amino silicone treated SILICA SHELLS have been developed. Since amino-silicone treatment has excellent hydrophobicity, it will absorb excess sebum without affecting any moisture on the skin (patented by Kobo).

**SILICA SHELLS-SH; INCI Name:** Silica (And) Methoxy Amodimethicone/Silsesquioxane Copolymer

## Shine-Control Facial Lotion

### Formula KFL-001E

#### Part 1

- Xiameter® PMX- 0245 - Dow Corning: Cyclopentasiloxane 20.00%
- CXG-1101 - Nusil/Kobo Products: Cyclopentasiloxane (And) Dimethicone/Vinyl Dimethicone Crosspolymer 10.00%
- Dow Corning 556 Fluid - Dow Corning: Phenyl Trimethicone 10.00%
- SF1528 - Momentive: Cyclopentasiloxane (and) PEG/PPG-20/15 Dimethicone 10.00%

#### Part 2

- MST-547 - Kobo Products: Polymethylsilsesquioxane 5.00%
- SF1642 - Momentive: C30-45 Alkyl Dimethicone 2.00%

#### Part 3

- Deionized Water 39.30%
- SILICA SHELLS - Kobo Products: Silica 1.50%
- Germaben® II - Ruger Chemical Co., Inc.: Propylene Glycol (And) Diazolidinyl Urea (And) Methylparaben (And) Propylparaben 1.00%
- Sodium Chloride - Morton Salt: Sodium Chloride 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 MST-547 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 offers excellent lubricity and a smooth, silky feel due to MST-547's sub-micron sphericals, which act as "ball-bearings." CXG-1101 imparts a creamy, gel texture to the product. SILICA SHELLS absorb excess skin oils to help absorb shine.

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