

CLSQ SERIES

✓ CLSQ-ML5

✓ CLSQ-MH5

✓ CLSQ-EO1

✓ CLSQ-CL₃

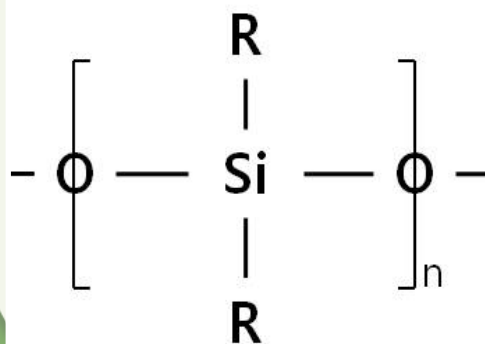
✓ CLSQ-ML10



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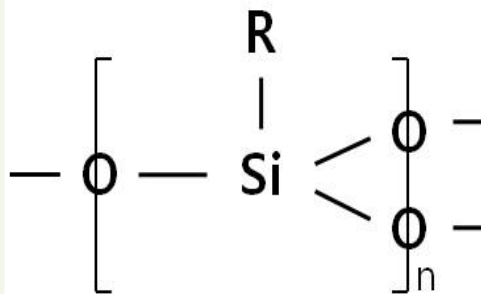
Silicone

→ POLYMER WITH SILICON AND OXYGEN



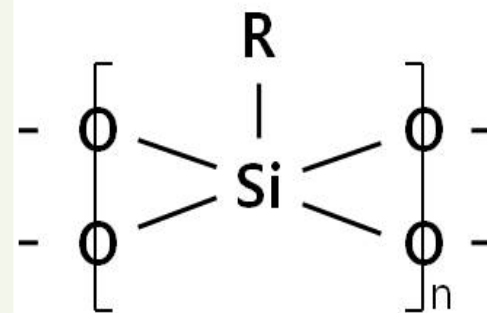
SiOR₂

Polysiloxane



SiO_{1.5}R

Polysilsesquioxane



SiO₂

Silica

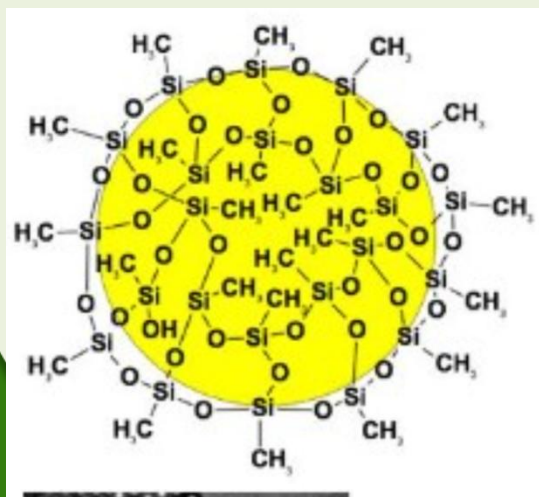
- **Siloxanes:** No solid type (Solid type can be obtained by cross link)
- **Silsesquioxanes:** 'Sesqui' means 1.5
Soluble polymer(Wax type), crystalline particle, un-soluble solid in net structure
- **Silica:** Crystalline, atypia



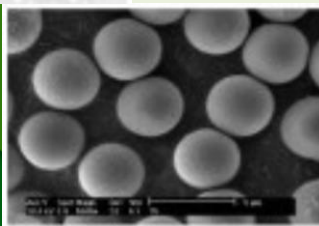
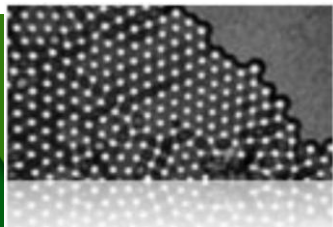
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CLSQ-ML5

→INCI: POLYMETHYLSILSEQUIOXANE



- CLSQ-ML5 is spherical powders of polymethylsilsesquioxane produced from methyltrimethoxysilane.
- No added ingredients other than water, methyltrimethoxysilane, base (pH control), and acid (pH control).
- Particle size: Average 5um.
- Hydrophobic but also can be dispersed in water with Hydrophilic organic.
- Pickering effect in some oil/water phase.
- Creamy and silky.
- Soft focus effect.
- Useful as emollients.
- Lubricating other powdery materials.
- Stable at high temperature.
- Oil absorbency is approximately 60%.



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CLSQ-ML10

→INCI: POLYMETHYLSILSEQUIOXANE

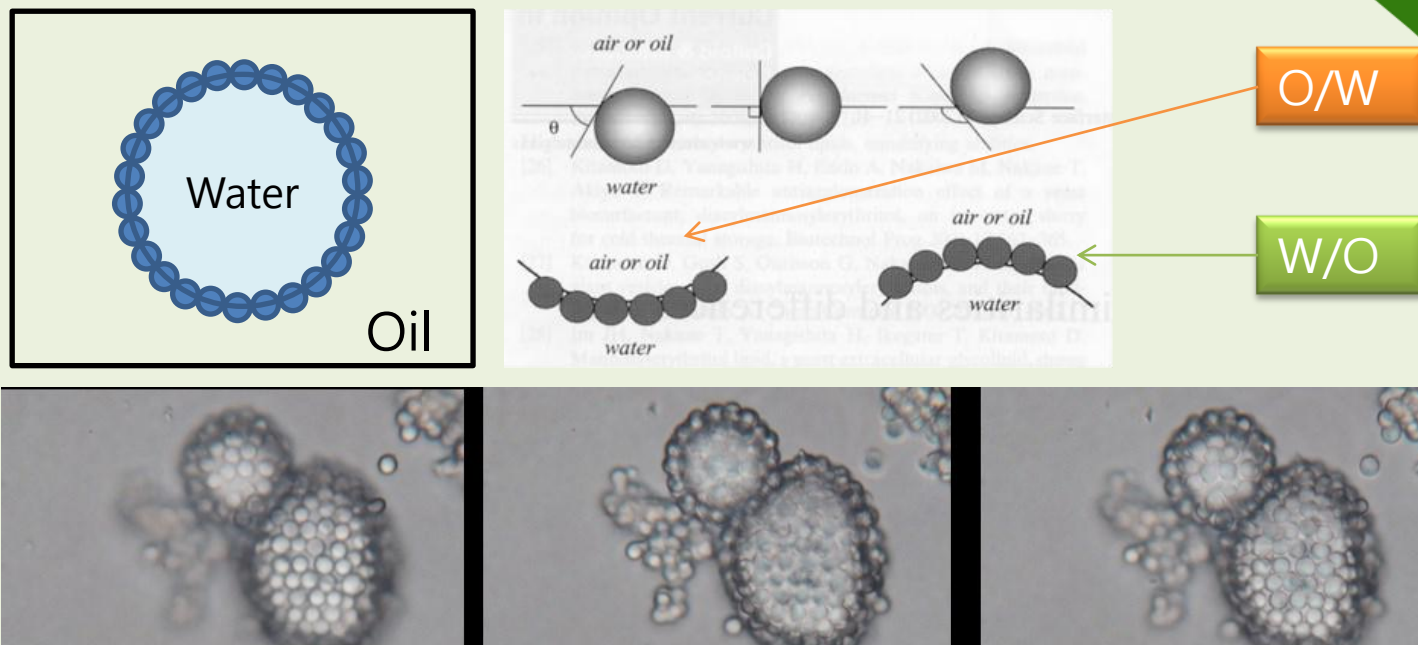
- CLSQ-ML10 are spherical powders of polymethylsilsesquioxane produced from methyltrimethoxysilane.
- No added ingredients other than water, methyltrimethoxysilane, base (pH control), and acid (pH control).
- Particle size: up to 10 um
- Hydrophobic but also can be dispersed in water with Hydrophilic organic.
- Pickering effect in some oil/water phase.
- Creamy and silky.
- Soft focus effect.
- Useful as emollients.
- Lubricating other powdery materials.
- Stable at high temperature.
- Oil absorbency is approximately 60%.



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Pickering Effect

→ The result could be determined by type of oil and water/oil quantity



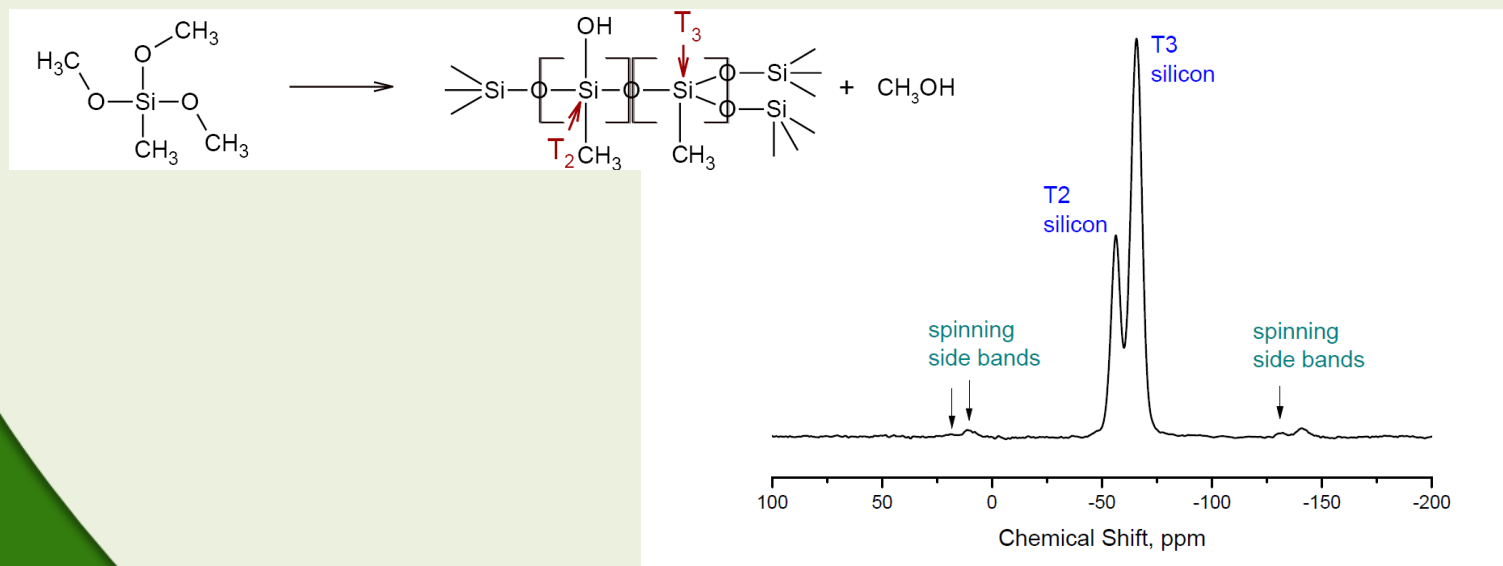
(upper) Position of a small spherical particle at a planar oil-water interface for a contact angle (measured through the aqueous phase) less than 90° (left), equal (center) and greater than 90° (right). (lower) Probable positioning of particles at the curved interface. For $\theta_{ow} < 90^\circ$, solid-stabilized O/W emulsions may form (left). For $\theta_{ow} > 90^\circ$, solid-stabilized W/O emulsions may form (right).

→ Pickering effect works as boosting factor on emulsion stability

CLSQ-ML5

→ INCI: POLYMETHYLSILSEQUIOXANE

Si^{29} NMR Spectrum of CLSQ-ML5



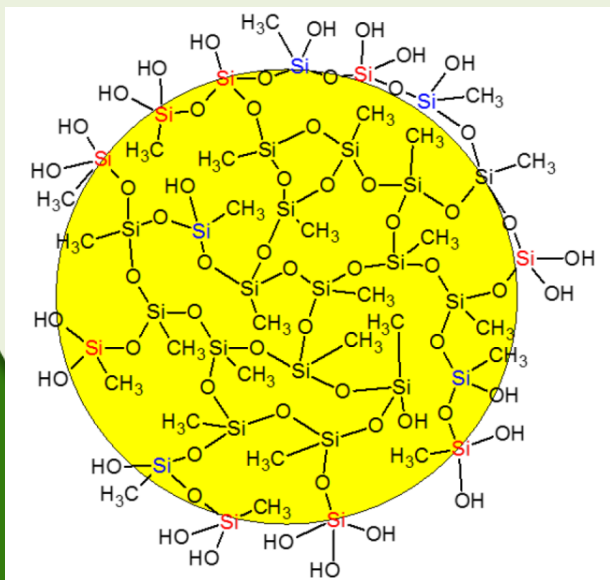
Name	Nitrogen%	Carbon%	Hydrogen%
CLSQ-ML5	0.26	16.77	4.72
Other's equivalent	0.23	16.81	4.75



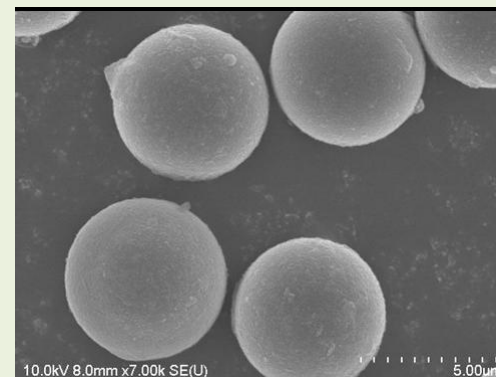
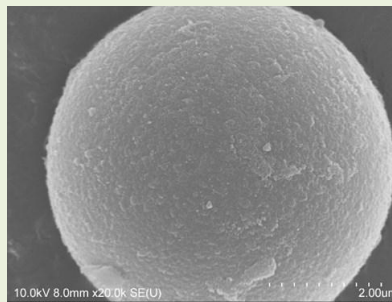
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CLSQ-MH5

→ INCI: POLYMETHYLSILSESQUIOXANE/SILICA



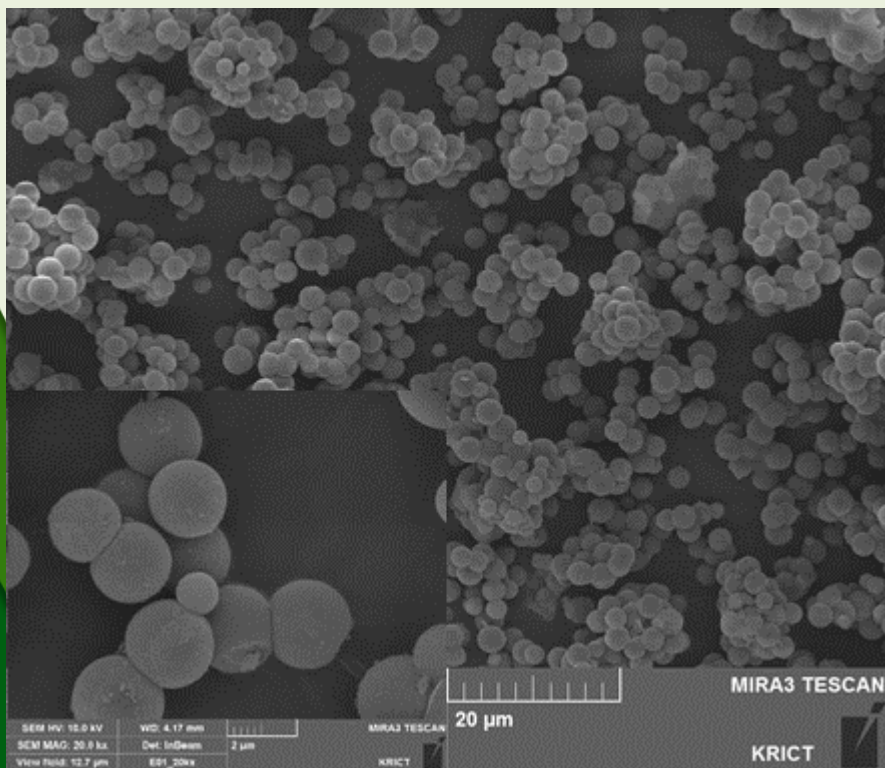
- Hydrophilic polymethylsilsesquioxane consist of the silicone which was made by patented Technique.
- Self-soluble in water with out shearing stress due to its high hydrophilic character.
- Oil absorbency is approximately 60-90%.
- Globular polymethylsilsesquioxane particle has 4-6 um diameter.
- Excellent skin texture.



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CLSQ-EO1

→INCI: POLYMETHYLSILSESQUIOXANE/POLYPROPYLSILSESQUIOXANE/
OCTYLTRIETHOXYSILANE/3-AMINOPROPYLDIMETHICONE/SILICA



- CLSQ-EO1 consist of globular primary particle has 4-5 um diameter.
- Due to soft structure, it has aggregation.
- Oil absorbency is approximately 200%.
- Pore tightening.
- Excellent skin texture.
- Reduce oily feeling especially in sun screen formulation.
- Soft focusing effect
- Increase viscosity

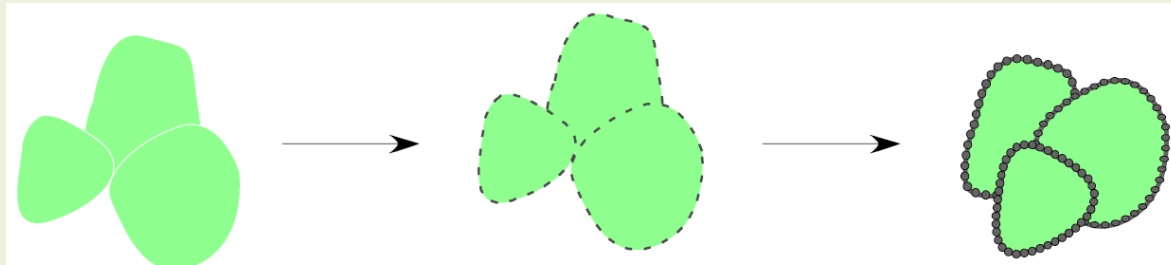


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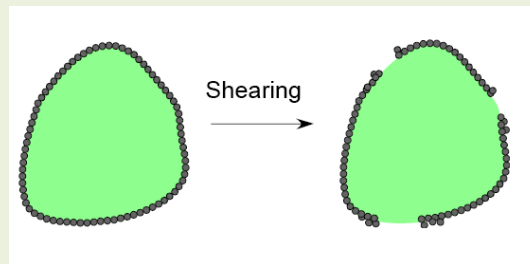
CLSQ-CL₃

→INCI: ZEA MAYS STARCH/ POLYMETHYLSILSESQUIOXANE
/POLYPROPYLSILSESQUIOXANE/ AMINOPROPYLDIMETHICONE

Corn Starch: 88%



Surface treatment (Hydrophobic)



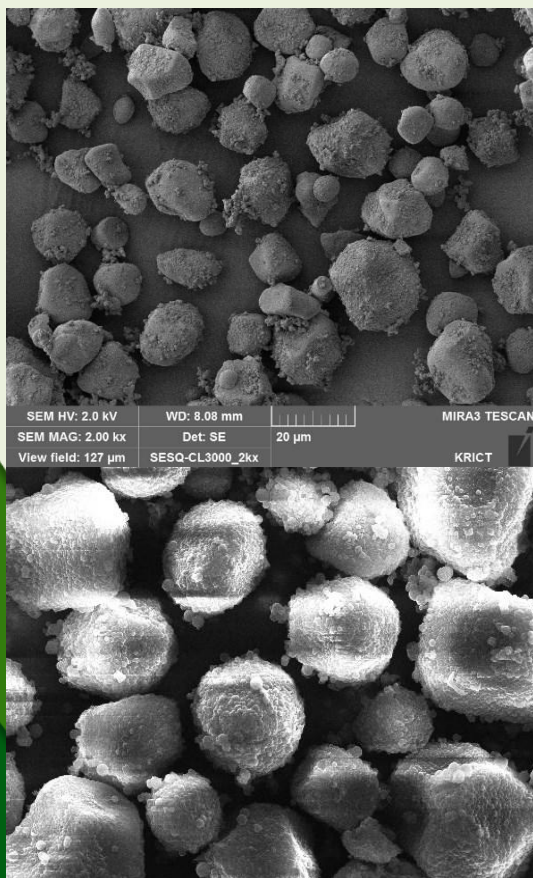
→It can be turned to be hydrophilic after strong shearing.
Totally different from starch but hydrophilic (No stickiness)



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CLSQ-CL₃

→INCI: ZEA MAYS STARCH/ POLYMETHYLSILSESQUIOXANE
/POLYPROPYLSILSESQUIOXANE/ AMINOPROPYLDIMETHICONE



- Core(Corn starch)-Shell(Silicone) form.
- More eco-Friendly
- Hydrophobic-Hydrophilic
- Particle size: 10-20 µm
- Excellent skin texture and spreadability(Pressed powder)
- Silkiness of polymethylsilsequioxane and softness of polypropylsilsesquioxane
- Add colorant and natural color is possible.



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Application

→MULTI FUNCTIONS OF CLSQ SERIES

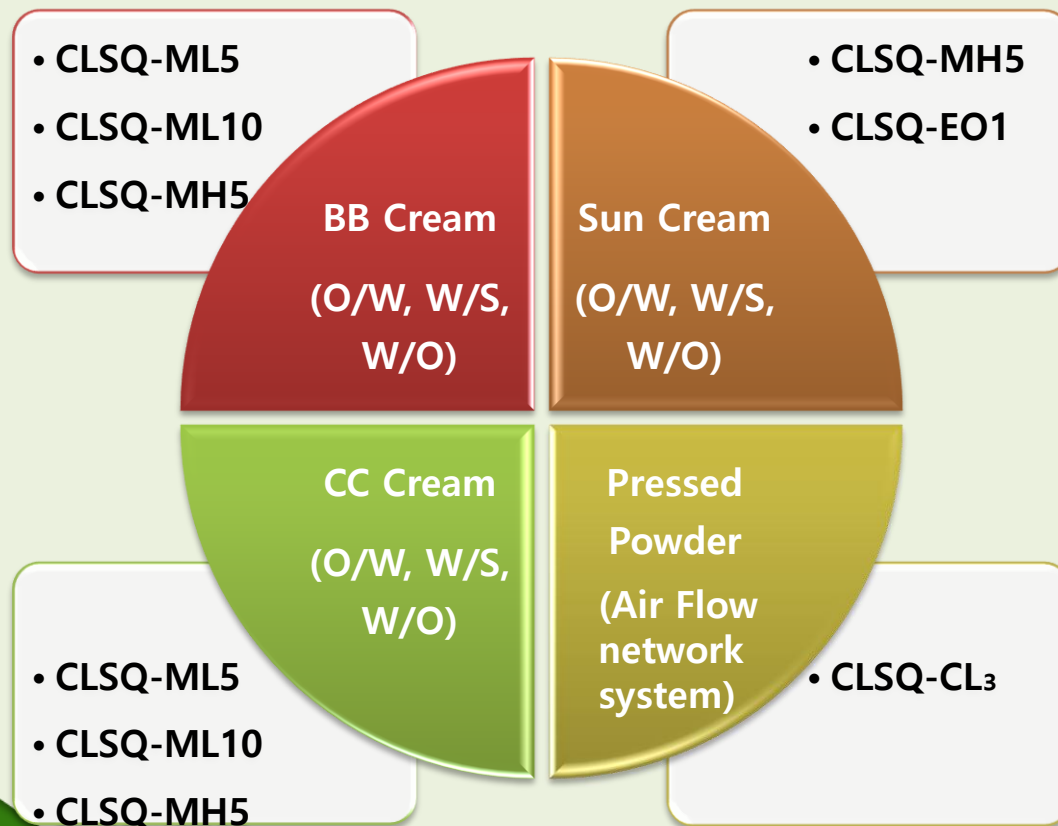
- Creamy and silky.
- Soft focus effect.
- Useful as emollients.
- Stable at high temperature.
- Pickering effect



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Application

→ MULTI FUNCTIONS OF EACH CLSQ SERIES



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