

# SilDerm® SQ



Polymeric  
**Three Dimensional Network**  
 Siloxane Bonding can be used to  
 stabilize emulsions  
 natural light diffuser,  
 matte finish

## BACKGROUND

**SilDerm® SQ** is a modification of traditional Polymethylsilsequioxane (PMSQ). Simply defined, silsesquioxane is a silicone structure where the ratio of silicone to oxygen is 1:1.5 as opposed to the 1:1 ratio seen in siloxanes. Classified as a ladder-type polymer, PMSQ is insoluble and highly resistant to heat. Traditional production methods call for the hydrolysis and condensation of methyltrialkoxysilane.

## SCIENCE

That method tends to produce methanol and can produce a draggy product due to contamination with dimethoxysilane. More modern production methods are not limited by precursor contamination nor alcohol production. **SilDerm® SQ** can be represented by the chemical formula  $[CH_3SiO_3/2]_n[CH_3Si(OH)O_3/2]$ . **SilDerm® SQ** forms a three dimensional network connected by siloxane bonds. The surface of the molecule is populated with mixed Methyl and Hydroxyl groups.

## BENEFITS

By varying the ratio of these groups, the surface activity of the **SilDerm® SQ** can be modified. In emulsion systems **SilDerm® SQ** will partition at the interface helping stabilize the emulsion. In pigmented products, **SilDerm® SQ** will diffuse light, deliver a matte finish, preserve translucency, improve dispersability, and increase spreadability. **SilDerm® SQ** is an ideal additive for improving product stability or overcoming the aesthetic limitations of existing formulas.

**Code Number: 30311**

**INCI Name:** Polymethylsilsequioxane  
**INCI Status:** Approved  
**REACH Status:** Complies  
**CAS Number:** 68554-70-1  
**EINCS Number:** N/A

**Origin:** Synthetic

**Processing:**

GMO Free  
 No Ethoxylation  
 No Irradiation  
 No Sulphonation

**Additives:**

Preservatives: None  
 Antioxidants: None  
 Other additives: None

**Solvents Used:** N/A

**Appearance:** Fine White Powder

**Soluble/ Miscible:** Insoluble

100% Biodegradability

**Microbial Count:** <100 opg,

No Pathogens

**Suggested Use Levels:** 1.0 - 5.0%

**Suggested Applications:**

Improved Texture, Dispersion Aid,  
 Light Diffusion

## Benefits of SilDerm® SQ

- Helps Stabilize Emulsions
- Improves Formulation Texture
- Natural Light Diffuser
- Improves Product Stability
- Enhances Formula Aesthetic