

Quaternary Functional Silsesquioxanes for use in Personal Care: Polysilsesquioxane Steardimonium Chloride

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ABSTRACT

Quaternary amine functional silsesquioxane particles are a universal conditioning and anti-static additive for personal care and cosmetics formulations. This solid powder can be dispersed easily into water based formulations, dry powders or plastic packaging. The highly charged surface provides beneficial effects at low loading levels. The particles are non-toxic, non-leaching, non-irritating, biocompatible, environmentally friendly and thermally stable.

Quaternary Silsesquioxane Solubility

H ₂ O	S
Ceresin	I
Vitamin E	S
Castor Oil	S (hot)
Ozokerite	I
Octyldodecanol	S (hot)
Stearyl Methicone	P S (hot)
Cyclopentasiloxane	I
Ethylhexyl Palmitate	I
10% Microcrystalline Wax	I

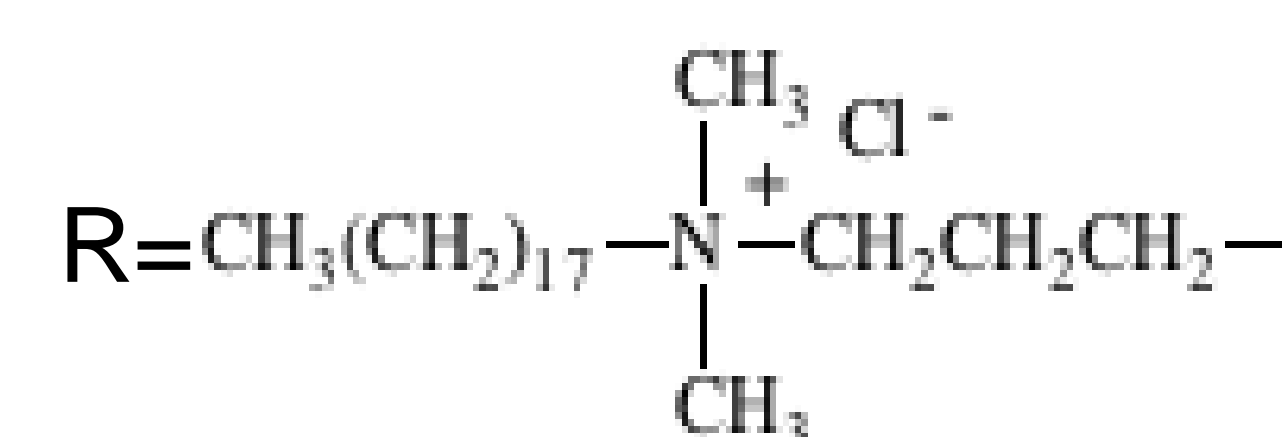
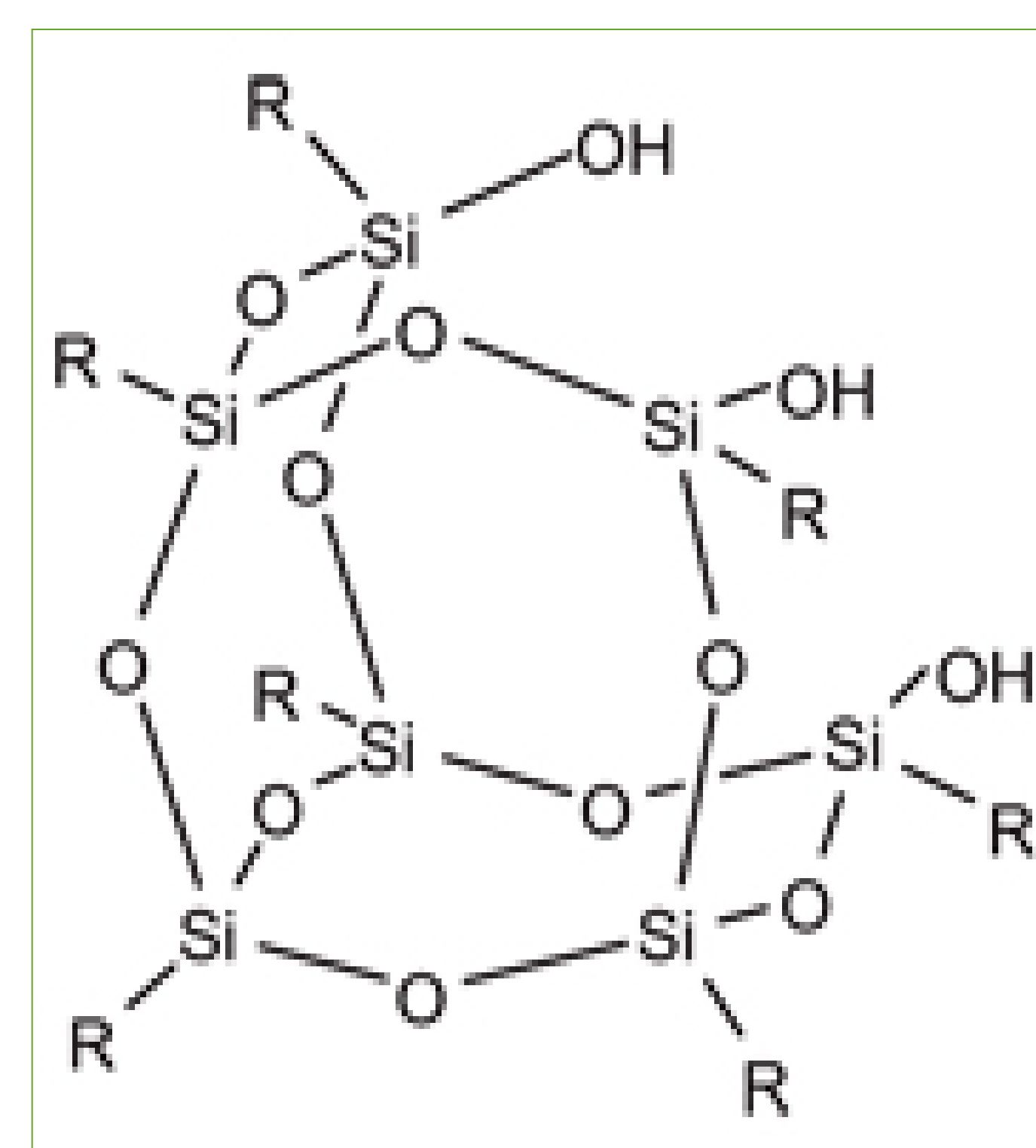
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PERSONAL CARE APPLICATIONS INCLUDING SKINCARE & HAIRCARE

- **Powerful cleansing and debriding ability**
- **Improves skin barrier function**
- **Improved skin affinity and adhesion**
- **Firms skin**
- **Uniquely natural smooth skin feel**
- **Non-tacky soft touch**
- **Light and non-greasy emollient**
- **Increased moisture binding capacity**
- **Antistatic for smooth shiny hair**
- **Long-lasting odor elimination**
- **Unusual combination of light dry feel with substantivity**

SOLID POWDER

- Polymer
- Dry powder
- VOC free
- Stable in aqueous solution up to 5 wt%



***INCI Name:**
Polysilsesquioxane
Steardimonium
Chloride

Please visit www.gelest.com
for application information



CONCLUSION

Quaternary amine functional silsesquioxane particles can be used in personal care products as an alternative to harsh chemicals. The ease of handling and use allow for a wide range of applications including cosmetics, cosmetic packaging and surface treatment of micro-particles and pigments.

The particles are easily dispersible in aqueous formulations and can bring a wide range of properties.



PACKAGING APPLICATIONS: COMPATIBLE WITH A WIDE RANGE OF PLASTICS
eliminates mold, mildew, algae and odor causing bacteria
as an EPA registered micro-biostatic agent [83019-1]*

The powder can be added to plastics packaging at 1-2 wt% to give anti-static properties.
The powder can be added before extrusion to allow for ease of use.

- Polyurethane
- Ethylene-Vinyl Acetate (EVA) Foam
- Polyamide
- Silicone
- Acrylic and Acrylic Adhesives
- Low and Medium Density Polyethylene

ADVANTAGES IN PLASTICS

- Non-leaching, Non-depleting
- Non-toxic and environmentally safe
- Does not discolor

***No testing or explicit claims apply to applications other than the surface of plastics.**