

Silico® PC19816 Phenyl Silicone Fluid

Technical Data Sheet (TDS)

Product Identification

Silico® PC19816 Phenyl Silicone Fluid

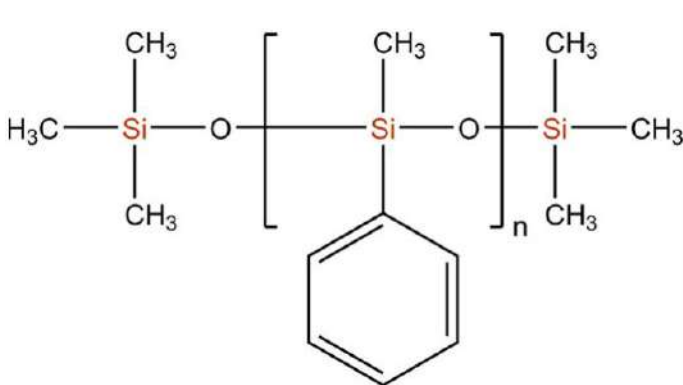
High-Refractive-Index Phenyl Silicone Polymer for Cosmetic and Specialty Applications

CAS No.: 70131-69-0

Chemical Name: Silsesquioxanes, phenyl trimethylsilyloxy-terminated

Brand: Silico®

Chemical Structure



Product Description

Silico® PC19816 is a high-purity phenyl-modified silicone fluid designed for advanced cosmetic and specialty formulations.

This specialty silicone polymer combines excellent gloss, superior compatibility with organic ingredients, and enhanced film-forming properties, making it ideal for high-performance personal care applications.

Phenyl silicone fluids exhibit higher refractive index and improved compatibility with organic oils compared with standard dimethicone fluids, resulting in enhanced shine, smooth sensory feel, and improved water resistance in cosmetic formulations.

Silico® PC19816 is widely used in skin care, hair care, sunscreen formulations, and premium beauty products requiring superior aesthetic performance.

Typical Physical & Technical Properties

Property	Test Method	Typical Value
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Appearance	Visual	Colorless to slightly yellow transparent liquid
Chemical Type	—	Phenyl Silicone Polymer
CAS Number	—	70131-69-0
Refractive Index (25 °C)	ASTM D1218	1.4549 – 1.4626
Density (25 °C)	ASTM D4052	0.970 – 0.990 g/cm ³
Viscosity (25 °C)	ASTM D445	15 – 30 cSt
Flash Point	COC	> 200 °C
Solubility	—	Insoluble in water
Compatibility	—	Soluble in most organic solvents

Key Performance Features

High Refractive Index for Enhanced Gloss

The phenyl functional groups provide a higher refractive index compared with standard dimethicone fluids, resulting in improved brightness, gloss, and optical clarity in cosmetic formulations.

Excellent Compatibility with Organic Phases

Silico® PC19816 demonstrates outstanding compatibility with:

- cosmetic oils and esters
- hydrocarbon solvents
- ethanol and alcohol systems

This compatibility enables flexible formulation across a wide range of personal care products.

Superior Sensory Performance

The silicone polymer provides a smooth, silky sensory feel, improving spreadability and leaving a lightweight conditioning film on skin and hair.

Improved Water Resistance

Phenyl silicone fluids enhance water repellency and durability, making them particularly suitable for sunscreen formulations and long-lasting cosmetics.

Outstanding Thermal and Chemical Stability

Silicone polymers exhibit excellent resistance to:

- heat and oxidation
- UV exposure
- chemical degradation

This ensures stable performance in demanding formulation environments.

Typical Applications

Silico® PC19816 is widely used as a cosmetic silicone fluid and functional additive in various personal care formulations.

Skin Care Products

- Moisturizing creams and lotions
- Anti-aging serums
- Facial treatment formulations
- Premium skin conditioning products

Hair Care Formulations

- Hair conditioners
- Leave-in treatments
- Hair serums and shine enhancers
- Styling products

Sunscreen and Cosmetic Applications

- Sunscreen emulsions
- Foundations and makeup bases
- Primers and color cosmetics

Specialty Cosmetic Additives

- Gloss enhancers
- Film-forming agents
- Silicone conditioning additives
- Fragrance carriers

Formulation Advantages

Compared with traditional dimethicone silicone oils, phenyl silicone polymers such as Silico® PC19816 offer several formulation advantages:

- Higher refractive index for enhanced cosmetic shine
- Improved compatibility with organic oils and esters
- Enhanced gloss and optical clarity
- Improved water resistance and film durability
- Superior sensory performance on skin and hair

These characteristics make Silico® PC19816 particularly suitable for premium cosmetic formulations and high-performance personal care products.

Packaging

Silico® PC19816 phenyl silicone fluid is available in the following packaging options:

- 20 kg plastic pail
- 200 kg steel drum
- 950 kg IBC container

Custom packaging solutions may be available upon request.

Storage and Shelf Life

Storage Conditions

Store in tightly sealed containers in a cool, dry, and well-ventilated environment.

Avoid exposure to:

- excessive heat
- direct sunlight
- strong oxidizing agents

Recommended storage temperature:

5 °C – 30 °C

Shelf Life

24 months from the date of manufacture when stored in original unopened packaging.

Safety and Handling

Handle in accordance with standard industrial hygiene and safety practices.

For detailed safety information including hazard identification and exposure control recommendations, please refer to the Silico® PC19816 Safety Data Sheet (SDS).