



# MOMENTIVE

performance materials

Silsoft\* silicone gel



# Typical Features and Benefits

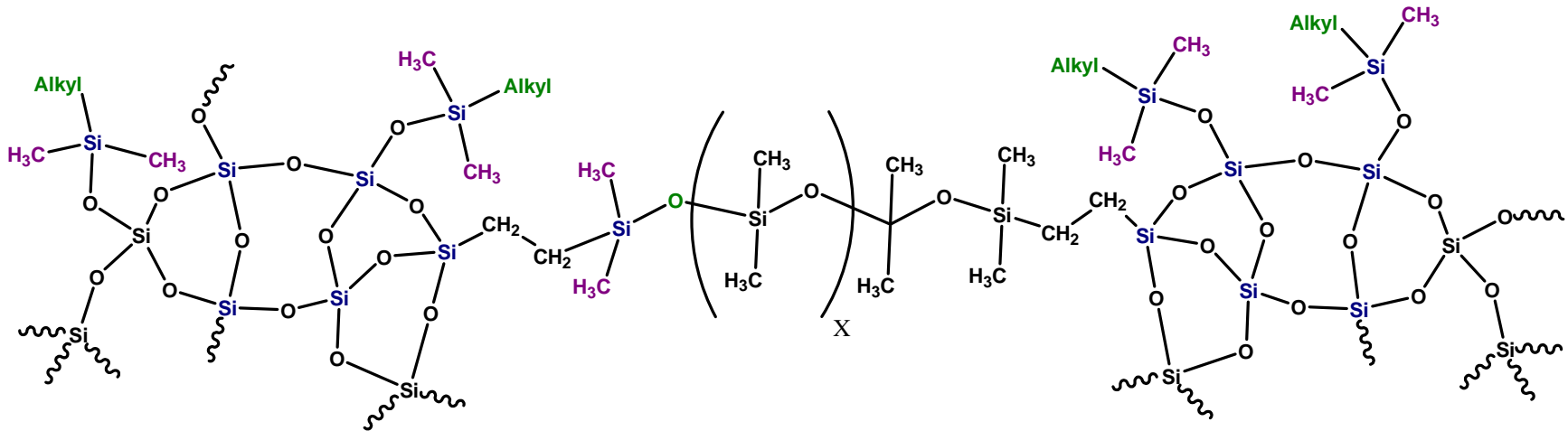
- Smooth, silky delivery onto the skin
- Soft, non-greasy rub in during application
- Reduces tack in finished formulations
- Formulation flexibility together with strong organic compatibility
- Can be used with most clear anhydrous systems
- Easy to use during manufacture
- Minimal balling during application
- Able to thicken the oil phase
- Easy to use during manufacture
- Minimal balling during application
- Able to thicken the oil phase

## Potential Applications

- Suncare
- Emulsions
- Color cosmetics
- Anhydrous products
- Hair care products

# Silsoft\* silicone gel Chemistry

**INCI Name:** Cyclopentasiloxane (and) Cetearyl Dimethicone/Vinyl Dimethicone Crosspolymer



## Typical Properties

Appearance	Clear, colorless gel
Solids %	5.1-5.4
Initial Viscosity	10,000 – 25,000cps

**Clear, viscous gel with silky, cushioning touch**

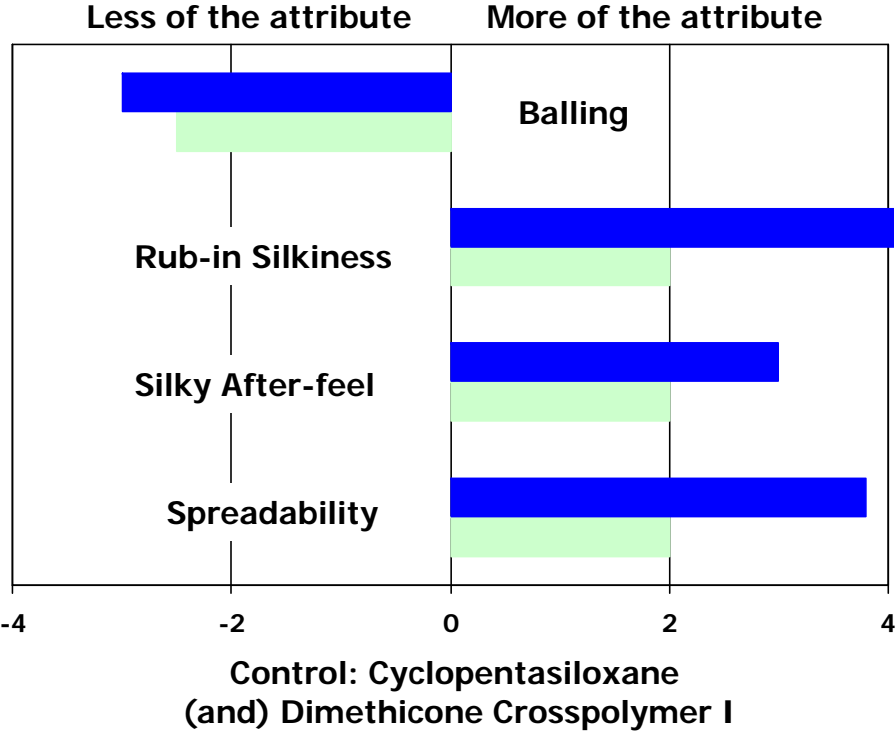


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# Silsoft\* silicone gel Sensory



■ Silsoft\* Silicone gel  
■ Cyclopentasiloxane (and) Dimethicone Crosspolymer II

Note: Test data. Actual results may vary.

**Silsoft silicone gel generally spreads easily with an improved sensory experience and substantially reduced balling**



# Silsoft\* silicone gel Compatibility

Solvent	Solubility	Solvent	Solubility
Mineral Oil	D	SF1202 Cyclopentasiloxane	C
Petrolatum	C	SF96*-5 Dimethicone 5cst	C
Isododecane	C	SF96-200 Dimethicone 200cst	C
Isopropyl Myristate	C	Silsoft 034 Caprylyl Methicone	C
Isopropyl Palmitate	C	Silsoft 900 PEG-12 Dimethicone	P
Isononyl Isononanoate	C	Silsoft 305 PEG/PPG-5/3 Methicone	C
C12-15 Alkyl benzoate	D	Silsoft 895 PEG-17 Dimethicone	P
Capric/Caprylic Triglycerides	P	Silsoft 805 PEG-8 Dimethicone	C
Octyl Salicylate	C	SF1550 Phenyl Trimethicone	C
Octocrylene	D	Tospearl* 145A Polymethylsilsesquioxane	D
Ethanol	P	Silsoft ETS Ethyl Trisiloxane	C
SF1632 Cetearyl Methicone	C	SS4230 Cyclopentasiloxane (and) Trimethylsiloxysilicate	C
SF1642 C30-45 Alkyl Dimethicone	C	SS4267 Dimethicone 9and) Trimethylsiloxysilicate	C

**Good compatibility with a wide variety of oil phase ingredients**



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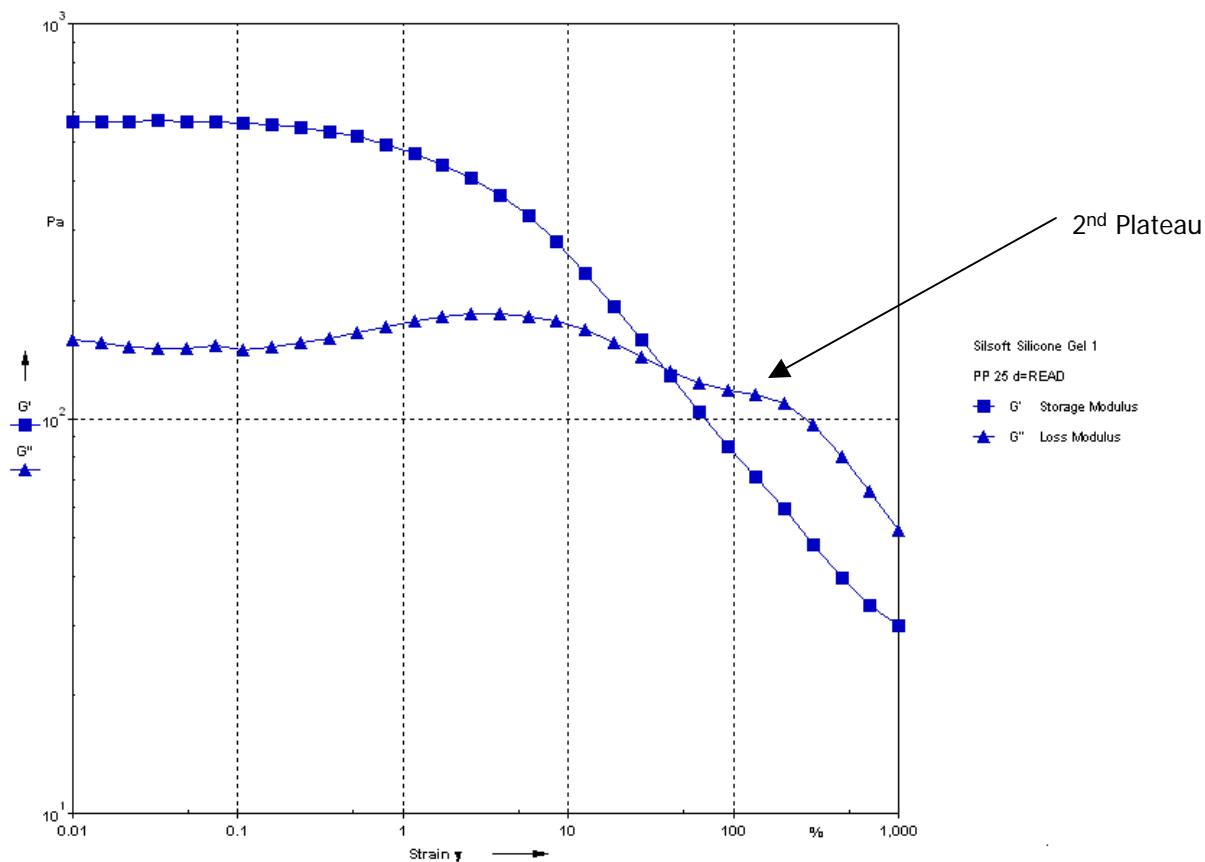
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# Silsoft\* silicone gel Rheology

Rheology can predict performance characteristics

Amplitude Sweep



The gel structure changes under shear for enhanced playtime and a more silky feel



# Silsoft\* silicone gel

## Formulation Guidelines

- Silsoft silicone gel can be formulated into:
  - O/W Emulsions
  - W/O Emulsions
  - W/Si Emulsions
  - Anhydrous Products
  - Hair Care
- Silsoft silicone gel is added to the Oil or Silicone Phase
- Silsoft silicone gel can withstand high shear devices during mixing
- Silsoft silicone gel can be cold processed
- Silsoft silicone gel can be heated during manufacturing
  - Caution must be taken to not volatilize Cyclopentasiloxane
- Suggested Use Levels: 5 – 30%

# Silsoft\* silicone gel

## Anti-Aging Cream

Silsoft silicone gel can enhance an elegant sensory experience by smoothing and spreading the collagen easily across the skin's surface.



	Commercial Name	INCI Name	Wt/wt %
A	Water	Water	q.s. to 100%
	Glycerin	Glycerin	4.00
	EDTA	EDTA	0.05
	Cucumber extract	Cucumber Extract Euphrasia Officinalis Extract	2.00
	Lactic Acid	Lactic Acid	1.00
	B	<b>Silsoft silicone gel</b>	Cyclopentasiloxane (and) Cetearyl dimethicone/vinyl crosspolymer
Tospearl* 3000A microspheres		Polymethylsilsesquioxane	2.00
SF1202		Cyclopentasiloxane	10.00
SF1540		Cyclopentasiloxane (and) PEG/PPG-20/15 dimethicone	3.00
Collagen		Collagen	1.00
Crodamol <sup>1</sup> CAP		Cetearyl Ethylhexanoate and Isopropyl Myristate	3.00
Preservative		Preservative	As needed



<sup>1</sup>Croda USA Inc Note: Product formulations are illustrative examples only. Momentive makes no representation or warranty of any kind with respect to such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations.

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# Silsoft\* silicone gel

## SPF Facial Lotion

<sup>1</sup>Neo Heliopan Hydro is a registered trademark of Symrise GmbH & Co. KG

<sup>2</sup>Pemulen is a registered trademark of Lubrizol Advanced Materials, Inc.

<sup>3</sup>SEPPIC

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Silsoft silicone gel can help to de-tackify the sunscreen lotion to improve the sensory experience and also assist in the smooth spreading of the oils.

	Commercial Name	INCI Name	wt/wt%
A	Water	Water	20.0
	Neo Heliopan® Hydro <sup>1</sup>	Phenylbenzimidazole Sulfonic Acid	2.0
	Triethanolamine	Triethanolamine	pH 7.0-8.0
B	Water	Water	q.s. to 100%
	EDTA	EDTA	0.20
	Glycerin	Glycerin	3.0
	Pemulen® <sup>2</sup> TRI	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	0.25
C	Isopropyl Palmitate	Isopropyl Palmitate	3.0
	Octyl Methoxycinnamate	Octyl Methoxycinnamate	7.5
	Benzophenone-3	Benzophenone-3	2.0
	Cetearyl Alcohol	Cetearyl Alcohol	2.0
	Polysorbate 80	Polysorbate 80	1.5
	Glyceryl Stearate	Glyceryl Stearate	0.50
	BHT	BHT	0.050
D	Sepigel <sup>3</sup> 305	Polyacrylamide (and) C13-14 Isoparaffin and Laureth-7	1.0
E	Silsoft silicone gel	Cyclopentasiloxane (and) Cetearyl Dimethicone/vinyl crosspolymer	5.0
	Silsoft ETS trisiloxane	Ethyl trisiloxane	5.0
	Silsoft 034 fluid	Caprylyl methicone	2.0
F	Tocopheryl Acetate	Tocopheryl acetate	1.0
G	Preservative	Preservative	as needed

Note: Product formulations are illustrative examples only. Momentive makes no representation or warranty of any kind with respect to such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations.

# Silsoft\* silicone gel SPF Body Lotion

<sup>1</sup>Neo Heliopan Hydro is a registered trademark of Symrise GmbH & Co. KG

<sup>2</sup>Emulgade is a registered trademark of Cognis Deutsch and GmbH & Co. KG

<sup>3</sup>Tinovis is a registered trademark of Ciba Specialty Chemicals Corporation

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Silsoft silicone gel can help provide a luxurious touch to elevate an ordinary SPF lotion into a premium formulation.

	Commercial Name	INCI Name	wt/wt%
A	Water	Water	20.0
	Neo Heliopan® Hydro <sup>1</sup>	Phenylbenzimidazole Sulfonic Acid	2.0
	Triethanolamine	Triethanolamine	pH 7.0 – 8.0
B	Water	Water	q.s. to 100%
	Disodium EDTA	Disodium EDTA	0.20
C	Benzophenone-3	Benzophenone-3	2.0
	Isopropyl Palmitate	Isopropyl Palmitate	3.0
	Octyl Methoxycinnamate	Octyl Methoxycinnamate	7.5
	Emulgade® <sup>2</sup> SE-PF	Glyceryl Stearate (and) Ceteareth-20 (and) Ceteareth-12 (and) Cetearyl Alcohol (and) Cetyl Palmitate	2.5
	Ceteareth-20	Ceteareth-20	2.5
	Dicaprylyl Carbonate	Dicaprylyl Carbonate	1.5
	BHT	BHT	0.050
	Almond Oil	Prunus Amygdalus dulcis	1.0
D	Silsoft silicone gel	Cyclopentasiloxane (and) Cetearyl Dimethicone/vinyl crosspolymer	5.0
	SF1202	Cyclopentasiloxane	10.0
	Silsoft 034 fluid	Caprylyl Methicone	2.0
E	Tinovis® <sup>3</sup> ADM	Sodium acrylates copolymer (and) mineral oil (and) PPG-1 trideceth-6	3.0
F	Preservative	Preservative	as needed

Note: Product formulations are illustrative examples only. Momentive makes no representation or warranty of any kind with respect to such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations.

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#### Patent Status

Silsoft\* silicone gel is protected by one or more of the following U.S. patents: 5,760,116; 5,929,162; 5,998,542; 6,291,563 and foreign counterpart patents.

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