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TECHNICAL DATA SHEET
Silmer® QT9-30
 Silicone Resin

DESCRIPTION

Silmer QT9-30 is a Silicone Resin dissolved to 70% actives in isododecane. **Silmer QT9-30** is described by INCI name POLYMETHYLSILSESQUIOXANE (and) ISODODECANE.

TYPICAL PROPERTIES

Appearance	Clear pale yellow liquid
Viscosity, cPs	25
Active Content, %	70

USES AND APPLICATION

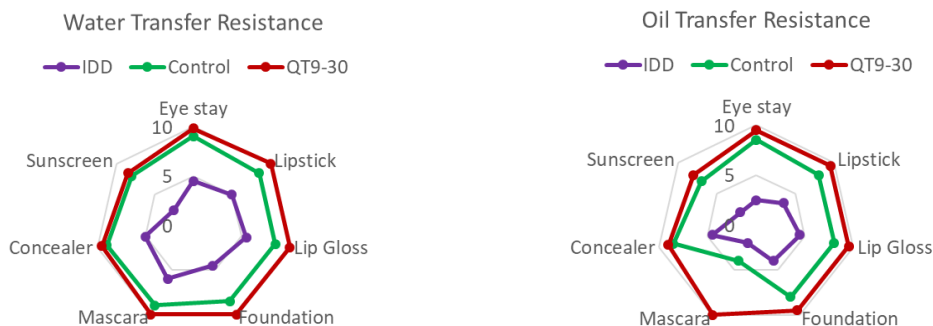
Silmer QT9-30 is especially formulated to bloom to the surface of colour cosmetic, lipstick and skin care products to provide a barrier with maximum non-transfer properties to colour cosmetics.

Silmer QT9-30's unique structure provides excellent transfer resistance to both water-based and oil-based formulations.

Silmer QT9-30 also provides a soft, silky feel to colour cosmetics and gives a moderate improvement in hardness to various lipstick formulations evaluated in house. **Silmer QT9-30** shows the best efficacy when used at around 30% by weight of the total formulation.

APPLICATIONS DATA

In house formulations were evaluated with **Silmer QT9-30** compared at 30% actives to a control with both of our best current transfer resistance materials combined and an alternative control with no transfer additive (labeled IDD control) in the spiderweb charts below. Transfer Resistance is reported from 1-10(best). Further experimental details are available upon request.



APPLICATIONS DATA: Formulations

Below are several example formulations designed as starting points for your formulation work.

Included in this set of formulations is an Eye Stay formulation, a Lipstick, a Lip Gloss Formula, an O/W Mascara, and O/W Foundation, a Concealer and a Sunscreen.

These have been evaluated for stability at room temperature and also at 45°C.

FORMULATIONS

Eye Stay

Part A	Wt%	Properties	
Bentone Gel VS-5 PC V	29.45	Specific Gravity	0.922
Pentaerytherityl Tetraistearate	5.00	pH	7.00
Phenonip	0.80	Appearance	Pink Cream/Gum
Bentone 38V	5.00	Stability@ RT/45°C	Good/Good
Silmer® G162	10.00	Feel 1-10 (best)	9.3
Silmer QT9-30	31.00	Compatibility	Good
Silquat® J2-8B	5.60		
Part B			
IRIS91-TRI-77891 (White)	1.20		
IRIS-Y-77492 (Yellow)	0.10		
IRIS-R-77491 (Red)	0.20		
IRIS-B-77499 (Black)	0.10		
Talc	3.00		
Timiron Splendid Violet	2.20		
Colorona Carmine Red	4.97		
Timiron Splendid Blue	2.28		
D&C Red No.28 Al Lake	0.10		

Procedure:

Combine all the ingredients of Part A in a container, mix well.
Next, add the ingredients of Part B one by one into Part A with mixing. Check pigment dispersion and mix until uniform. Pour into mold.

Lipstick

Part A	Wt%	Properties	
Isododecane	26.00	Specific Gravity	0.916
Silmer QT9-30	36.00	Appearance	penny candy bullet-like
Part B		Melt Point, °C	46-55
Cetyl Alcohol	2.69	Hardness	55
Ozokerite	9.73	Stability@ RT/45°C	Good/good
Candelilla Wax	8.91	Feel 1-10 (best)	9.2
Carnauba Wax	6.10	Compatibility	High
Part C			
D&C Red 28	1.71		
Brown Iron Oxide	2.00		
Colorona Red Gold	0.73		
Colorona Carmine Red	0.51		
BPD-500	3.16		
DC 9701	2.46		

Procedure:

Into a container equipped with a propeller mixer, add all the ingredients of Part A+B, then heat up to 80~85°C. Once melted, add ingredients from Part C one by one with mixing, blend well and check dispersion. Pour into mold at 70 °C.

The lipstick made with **Silmer QT9-30** is smooth and easy to apply. The non-transfer properties maximize after drying.

Lipgloss

Part A	Wt%	Properties	
Polyisobutene	10.00	Specific Gravity	0.932
Silwax® D0-MS	5.00	Gloss*	71.2
Bentone Gel ISD-V	28.37	Appearance	Smooth glossy semi-solid
Bentone 38V	6.94	Melting Point, °C	42-45
D ₅	1.49	Stability@RT/45 °C	Stable/stable
Pentaerytherityl Tetraistearate	5.00	Feel 1-10 (best)	9.2
Silmer QT9-30	32.29	Compatibility	Good
Silquat J2-8B	5.74		
Part B			
Talc	3.00		
Suncroma D&C Red 28 Al Lake	0.15		
Gemtone Tan Opal G005	0.20		
Colorona Carmine Red	1.37		

*Gloss was tested by a BYK Micro-gloss (60°) Gloss-meter. The maximum gloss value is 95.7

Part C	
Citric Acid	0.10
Vitamin C Palmitate	0.05
Microcare OHB	0.10
Tinogard TT	0.10
Tinogard AS	0.10

Procedure:

Combine ingredients in Part A and heat up to 80 °C, keep mixing for 10 minutes until homogeneous. Add Part B ingredients one by one while mixing, cool to 50 °C. Then slowly add Part C ingredients one by one with mixing. Mix for 10 minutes and cool down to room temperature.

Mascara (W/O)

Part A	Wt%	Specifications	
D.I. Water	14.89	Specific gravity	0.960
Disodium EDTA	0.10	pH	6.93
Potassium Sorbate	0.20	Appearance	Black brown cream
Methyl Paraben	0.10	Stability@ RT/45°C	Stable/stable
Part B		Feel 1-10 (best)	9.2
Nylon-12	2.50	Compatibility	Good
IRIS91-B-77499	4.76		
Brown Iron Oxide	4.04		
Silmer® QT9-30	36.70		
Silquat® J2-8B	7.00		
Silmer G162	7.00		
Silube® 316	3.00		
Part C			
Carnuba Wax	6.00		
Candelilla Wax	6.00		
Ozokerite Wax	2.60		
Beeswax	3.50		
Propyl paraben	0.10		
Ammonium Hydroxide (29% Ammonia)	0.56		
Part E			
Phenonip	0.65		
Aloe Vera Oil	0.10		
Ginseng Extract	0.10		
Green Tea Extract	0.10		

Procedure:

Combine ingredients of Part A and heat up to 75~80 °C. Combine Part B and heat up to 75~80 °C, blend well. Add part A into Part B at 75~80 °C with mixing, mix at that temperature for 5 minutes, then cool down to room temperature.

Add Part C ingredients one by one while mixing.

W/O Foundation

Part A	Wt%	Properties	
D.I. Water	46.43	Viscosity (cps)	43,500
Glycerine	3.00	pH	5.73
Sodium Chloride	1.00	Appearance	Ivory makeup
Part B		Stability @RT/45°C	Good/good
Silube 316	5.00	Feel 1-10 (best)	9.2
Silmer QT9-30	31.00	Compatibility	Good
Argan Oil	2.00		
Siltech CE-2000	2.98		
Unipure White LC981 AS	3.68		
Unipure Yellow LC182 AS	0.74		
Unipure Red LC381 AS	0.22		
Unipure Black LC989 AS	0.07		
Intermer IPA 13-6 Polymer	1.20		
Excel Mica JP-2	1.48		
Bentone 38V	1.20		
Phenonip	q.s.		

Procedure: Combine Part A and mix well, heat up to 75~80 °C. Combine Part B and mix well then heat up to 75~80°C. Add Part A into Part B while agitating quickly to obtain a homogeneous mixture; continue to mix for 10 minutes and cool batch down to room temperature.

Sunscreen

Part A	Wt %	Properties	
D.I. Water	30.8	Viscosity (cps)	21,000
Propylene Glycol	5.0	pH	6.20
NaCl	1.0	Appearance	White Cream
Na ₂ EDTA	0.10	Stability@ RT/43°C	Good/Good
Part B		Feel 1-10 (best)	9.2
Silmer® QT9-30	32.00	Compatibility	Good
Silube® 316	6.00		
C ₁₂₋₁₅ Alkyl Benzoate	5.00		
C ₁₀₋₃₀ Alkyl Acrylate	3.50		
Titanium Dioxide	2.00		
Octyl Methoxycinnamate	7.00		
Benzophenone-3	5.00		
Avobenzone	2.00		
Phenonip	0.60		
Part C			
Fragrance	q.s.		

Procedure:

Combine ingredients in Part B and heat up to 70°C, blend well using Bamix mixer until homogeneous. Heat up to 75~80 °C. Combine Part A mix well and then heat up to 75~80 °C. Add Part A into Part B slowly with mixing, mix for 5 minutes, then cool down to 45°C and shear for 1 minute at 20,000 rpm. Add Part C as desired and mix well.

Concealer

Part A	Wt%		
Silmer Q20	3.69	Specific Gravity	0.932
Silwax® D02	0.92	pH	6.73
Lanolin Oil	0.65	Appearance	Warm Beige Paste
Silwax J219M	4.61	Stability @ RT	Good
Silmer QT9-30	31.52	Compatibility	Good
Siltech F100	1.00		
Hydrogenated Polyisobutene	2.02		
Dicaprylyl Ether	3.27		
White Ozokerite 164/170	3.41		
Beeswax	10.14		
Microcrystalline Wax	9.22		
Aloe Vera Oil	0.10		
Part B			
TiO ₂	21.03		
Yellow Iron Oxide	2.95		
Red Iron Oxide	0.77		
KMP-590	4.61		
Part C			
VE Acetate	0.04		
BHT	0.05		

Procedure:

Combine Part A, mix well and heat up to 75°C while mixing. Combine Part B and blend well until homogeneous. Add Part B into Part A. check pigment dispersion until no particles can be seen between glass slides. Then cool down to 50 °C, slowly add Part C ingredients one by one with mixing, mix 5 minutes.

SAFETY

Before handling, read the Material Safety Data Sheet and container label for safe use, physical and health hazard information.

THIS MATERIAL IS NOT FOR MEDICAL OR DRUG USE.

STORAGE AND SHELF LIFE

When stored in the original, unopened containers between 10 and 40°C, **Silmer QT9-30** has a shelf life of 12 months from date of manufacture.

PACKAGING

Silmer QT9-30 is available in 20kg and 200kg containers.

LEGAL DISCLAIMER

Siltech Corporation believes that the information in this technical data sheet is an accurate description of the typical uses of the product. Siltech Corporation, however, disclaims any liability for incidental or consequential damages, which may result from the use of the product that are beyond its control. Therefore, it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

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