

SilForm* INX Fluid



MARKETING BULLETIN

SPECIALTY FLUIDS - PERSONAL CARE

SilForm INX fluid offers an array of desirable benefits for cosmetic formulators. This versatile product can enhance transfer resistance, shine and moisturization in color cosmetic formulations, as well as anti-frizz, static control and fragrance retention properties for hair.

When neutralized, this ionic polymer can help keep color cosmetics in place while not compromising shine or comfort as many long-wearing products do. Additionally, SilForm INX fluid combines the benefits of controlling frizz and static in hair with the benefits of an outstanding shine. It also can enable stronger and longer lasting impression of fragrance, even in rinse-off formulations.

Key Features and Typical Benefits

- Enhanced comfort and wear ability of personal care formulations
- Transfer resistance when neutralized to pH 7-9
- Extended durability for long wear cosmetics
- Oil and water resistant
- Anti-frizz and shine benefits to hair
- Longer retention of fragrance on hair
- Emulsification of fragrances into clear formulations

Potential Applications

- Lip color
- Foundation
- Concealers
- Mascara
- Cream blush and eye shadows
- Eye liners
- Leave-on and wash-off hair treatments
- Leave-on and wash-off skin treatments and cleansers

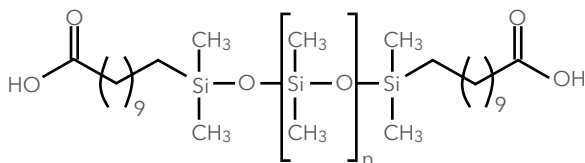
Typical Physical Properties

Appearance	Translucent fluid with slight amber hue
Viscosity, (25 °C, cSt)	400 cSt
Active Content	100%
Flash Point, °C	>145
Residual Cyclic Content	< 1000 ppm D4 or D5

Typical properties are average data and are not to be used as or to develop specifications.

Chemistry

SilForm INX fluid is an ionic polymer with carboxylic acid functionality at both ends. When neutralized, the acid functionality reacts and produces a film forming material.



SilForm INX fluid is most effective when neutralized to a pH of 7-9. To neutralize, we recommend using sodium hydroxide at an approximate ratio of about 0.01:1 to the polymer. While virtually any base may be used to neutralize SilForm INX fluid, the concentration of neutralizer needed to achieve desired pH may vary based on formula or the base chosen.

Test Performance Data

Transfer Resistance

A film former has the ability to prevent pigments from transferring to clothing or other substances such as a drinking glass to give a long-lasting freshly applied look to cosmetics.

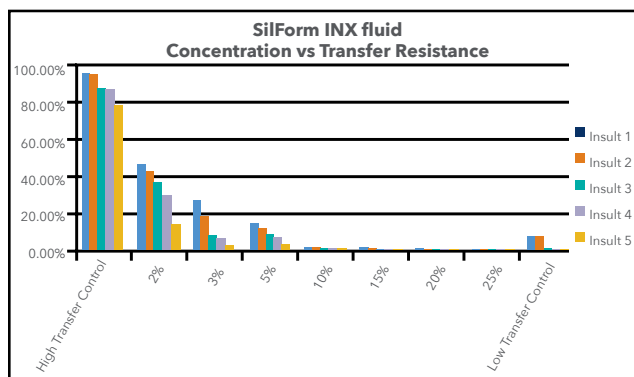
A transfer resistance study was performed on in-vitro skin using a finished lip color formulation at varying concentrations of SilForm INX fluid. The lip color was applied to the hydrated skin and allowed to dry. A weight with a white cloth attached was placed on the surface of the coated skin and rotated incrementally 360°. The white cloth was analyzed for transferred color via image processing software. If all the cloth in contact with the skin became colored then result would be 100% transferred (not desired). If the cloth remained white then the result would be 0% transferred (desired). The skin was insulated in the same location 5 times per formulation.

Formulations	Wt% SilForm INX						
	25%	20%	15%	10%	5%	3%	2%
Bentone Gel VS-5 Pc v	10	10	10	10	10	10	10
IDD	25	30.6	36.7	43	49.4	52	53.3
Red Shade Dispersion	30	30	30	30	30	30	30
TiO2-MT100TV	4	4	4	4	4	4	4
SilForm INX fluid	25	20	15	10	5	3	2
20% NaOH	6	5.4	4.3	3	1.6	1	0.7

Note: IDD was used to replace Silform INX fluid
 Note: Formulations were allowed to sit for 24hrs prior to applying to skin to maximize performance

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

Figure 1 – Transfer Resistance Data of a Lip Formulation at Varying Levels of SilForm INX fluid



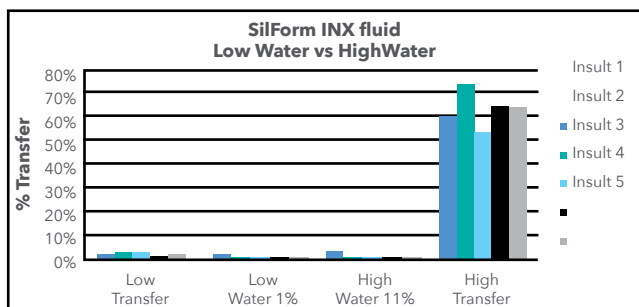
Note – test data. Actual results may vary.

In Figure 1, SilForm INX fluid started to show significant transfer resistance of the lip formulation at use levels as low as 2%.

A transfer resistance study was run on the same lip formulation to determine if adding a high load of water to a formulation would have a significant effect on the transfer resistance of a lip color formulation. The transfer resistance test was completed on a lip color formulation containing a high water content (11%) and a low water content (<1%).

This test showed that up to 11% water may be incorporated in a formulation without diminishing transfer resistance performance. The key to successful properties is to ensure formulation is fully dry.

Figure 2 – Comparison of Transfer Resistance in a Lip Gloss Formulation Containing High Water Content as Opposed to a Low Water Content.



Note – test data. Actual results may vary.

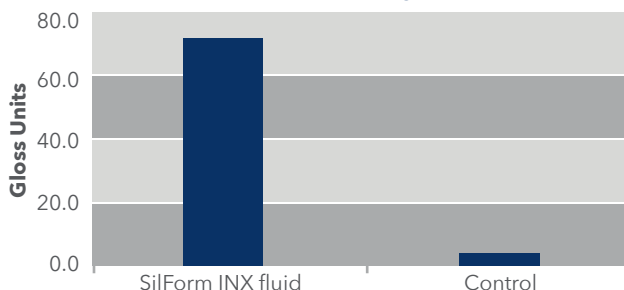
Gloss Results

In addition to long wear, it is also very desirable to have a high shine effect in color cosmetic formulations and it is a common struggle to maintain a glossy appearance in a formulation that has very high transfer resistance properties.

Two simple liquid lip formulations were prepared, one with SilForm INX fluid and the other with trimethylsilyloxy-silicate (traditional resin), and analyzed for gloss using a BYK-Gardner† gloss meter.

Test Performance Data (continued)

Figure 3 - Gloss Measurements of a Lip Color Formulation Containing SilForm INX fluid



Note: Test results. Actual results may vary.

Ingredients	F1	Control
SilForm INX fluid	25.00	-
Dimethicone Gum	-	10.00
Trimethylsiloxysilicate	-	15.00
Bentone Gel† VS-5 PC V (Thickener)	8.10	8.10
D5	27.60	40.00
Red Shade Dispersion "GE" (Pigment)	24.00	24.00
TiO2- MT100 TV (Pigment) Tri-K Industries	2.90	2.90
Aq. NaOH Solution (2.18 wt%)	12.40	-
Total	100.00	100.00

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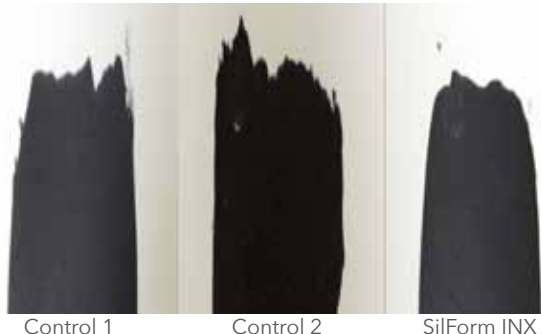
SilForm INX fluid can provide significant shine in a formulation.

Mascara Formulations

Pigment Dispersion

SilForm INX fluid can help enhance the dispersion of solids and pigments in finished personal care formulations. In the evaluation below, a finished mascara formulation was prepared with SilForm INX fluid as well as two controls, one with trimethylsiloxysilicate (traditional resin) and dimethicone gum and one containing no film formers. The three formulations were placed on a Laneta card for visual evaluation.

Figure 4 - Dispersion of Pigments in a Mascara Formulation Containing SilForm INX fluid



Control 1 - Formulation w/o traditional silicone film former
Control 2 - Formulation with traditional silicone film former
SilForm INX fluid - Formulation with SilForm INX fluid

Note: Test results. Actual results may vary.

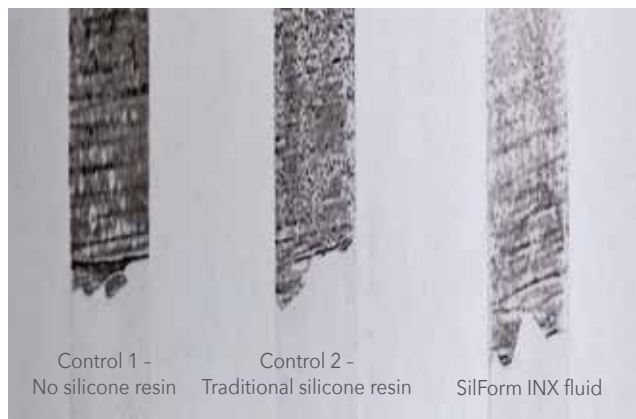
	Control 1 (No film former)	Control 2 (With traditional resin)	With SilForm INX fluid
Ingredient	Wt (%)	Wt (%)	Wt (%)
Demineralized Water	46.3	44.3	44.3
SF 1288	1	1	1
Hydroxyethyl Cellulose	0.7	0.7	0.7
PVP (10K)	2	2	2
Black Iron Oxide	10	10	10
TEA (97%)	1	1	1
Glyceryl Stearate	2.5	2.5	2.5
Synthetic Beeswax	8	8	8
Lanolin	2.5	2.5	2.5
Stearic Acid	3	3	3
Bentone Gel† VS-5 PC V	2	2	2
IDD	20	20	20
Trimethylsiloxysilicate	0	1	0
SE-30	0	1	0
SilForm INX fluid	0	0	2
Preservative	QS	QS	QS
Total	100	100	100

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Transfer Resistance of Mascara.

A study was run to confirm transfer resistance properties of the mascara. Mascara formulations can be prepared with SilForm INX fluid and common neutralizing agents - sodium hydroxide or triethanolamine (TEA), for this test a formulation neutralized with TEA was used. Control formulations were also made with trimethylsiloxysilicate (traditional resin) and with no silicone based film formers. The mascaras were then applied to a Laneta card and given an ample amount of time to dry. The mascara films were then assaulted with transfer tape to promote the transfer of the mascara onto the tape and color transfer was evaluated visually as well as through image analysis.

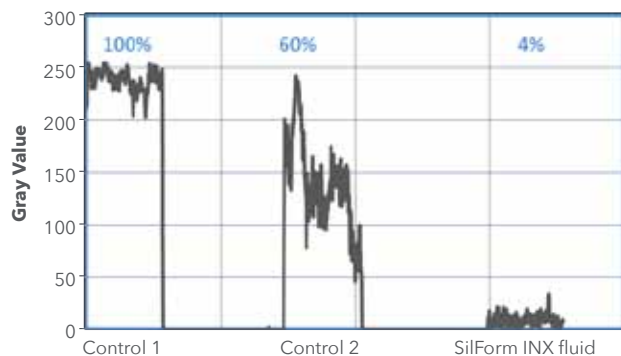
Figure 5 - Color Transferred to Tapes After the 1st Insult



Note: Test results. Actual results may vary.

Test Performance Data (continued)

Figure 6 - Image Analysis of Tapes after the 1st Insult: Gray Value and Relative % Color Transfer

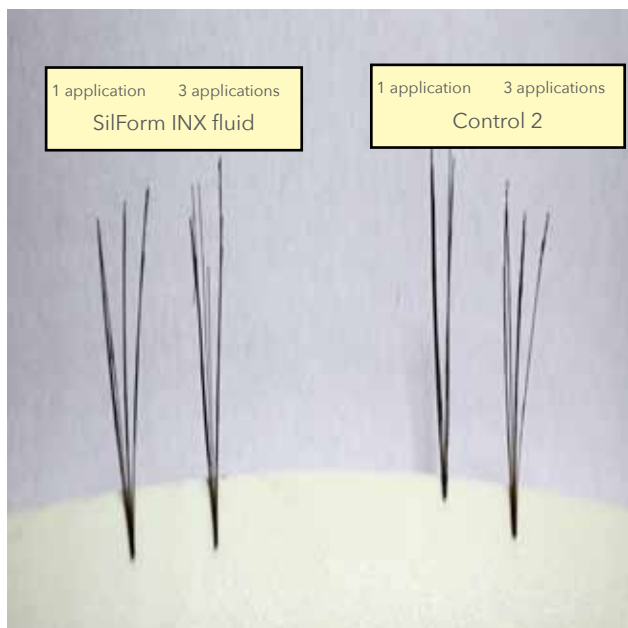


Note: Test data. Actual results may vary.

Application onto Artificial Eye-Lashes

Mascara formulations with a traditional silicone film former (control 2) and with Silform INX fluid were applied on to false eye lashes and evaluated through visual inspection. The mascara containing SilForm INX fluid provided a flexible hold, but also improved separation of lashes (no clumping) and more natural volume than the traditional resin control.

Figure 7 - Artificial Lashes with 1st and 3rd Applications of Mascara



Note: Test results. Actual results may vary.

SilForm INX fluid in Hair Care

In addition to color cosmetics, SilForm INX fluid can offer outstanding properties in hair care applications. Due to the aqueous nature of many hair care product types, it may be beneficial to make an emulsion of SilForm INX fluid for ease of use. The below formulation is an example of a clear micro-emulsion of SilForm INX fluid.

Figure 8 - SilForm INX fluid can be Dispersed to Make a Clear Solution for Ease of Use in an Aqueous Formulation



	Trade Name	INCI Name	%
A	SilForm INX fluid	Bis-Carboxydecyl Dimethicone	25
	Dipropylene Glycol	Dipropylene Glycol	5
	Synperonic† 13/6	Trideceth-6	18.8
B	Sodium Chloride	Sodium Chloride	1
	Water	Water	40.3
C	Sodium Hydroxide	Sodium Hydroxide	0.2
	Water	Water	QS to 100

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Procedure:

- Mix phase A ingredients together and heat to 50 °C, continue mixing for 15 minutes at 300 rpm using an overhead stirrer.
- Dissolve sodium chloride in water, combine with phase A.
- Make a solution of sodium hydroxide in water and add to A+B mixture. Reduce mixing speed after 15 minutes and allow the emulsion cool to room temperature. Check pH and adjust to 6.5 - 7 if necessary.

Test Performance Data (continued)

This dispersion of SilForm INX fluid can also be beneficial to help emulsify fragrances into an aqueous formulation - a difficult challenge for many formulations.

Figure 9 - Emulsion Surfactants + 0.25% Fragrance (No SilForm INX fluid in formulation)



Figure 10 - SilForm INX fluid Emulsion + Fragrance



Note: Test results. Actual results may vary.

Anti-Frizz Effect of SilForm INX fluid

SilForm INX fluid was used on damaged curly hair to determine if there was a positive effect on frizz.

Hair Damage Protocol:

Soak hair twice in 50 ml of a solution containing 6% H₂O₂ and 0.05% NaOH in water for 25 minutes each. Change peroxide solution in between. Wash excess peroxide with a 10% solution of SLES.

Hair Treatment Protocol:

Dip tresses in a 0.3% active solution of Polyquaternium-7 or SilForm INX fluid. After drying, both tresses are combed once and put in 90% humidity chamber for 1 hour. Then both tresses are combed 5 times front and back.

Figure 11



0.3% Polyquaternium-7

0.3% SilForm INX fluid

Note: Test results. Actual results may vary.

The damaged tress treated with SilForm INX fluid showed significantly less frizz than the tress treated with Polyquaternium-7. In a blind panel test, all participants preferred the tress treated with SilForm INX fluid for both appearance and feel.

Test Performance Data (continued)

Anti-Static Effect of SilForm INX fluid

Protocol:

Two tresses are dipped into separate solutions, a control emulsion containing no silicone and test solution with a 0.3% active SilForm INX fluid content. After drying, both tresses are combed once and put in 30% humidity chamber for 1 hour. Then both tresses are combed 5 times front and back.

Figure 12 - Static Tests



Control

0.3% SilForm INX fluid

Figure 13 - Shine



Control

0.3% SilForm INX fluid

Note: Test results. Actual results may vary.

The hair tress treated with SilForm INX fluid showed significantly less static and better shine attributes than the control.

Test Performance Data (continued)

Fragrance Retention Study

Evaluation Protocol:

Each Panelist was instructed to smell damaged curly tresses to determine which tress had the strongest fragrance odor. Each panelist was given the option to smell coffee (either beans or K-Cup pod) prior to and between smelling tresses to clear the nose if they felt it was necessary.

Test I: Floral type fragrance: Fragrance 6113578 from Bell Flavors & Fragrances Inc. in a Leave-on Conditioner:

	Trade Name	Chemical Name/INCI Name	%
A	Water	Aqua	Up to 100
	Lactic Acid	Lactic Acid	0.6
B	Amidet† APA-22	Behenamidopropyl Dimethylamine	2.2
C	Kalcol† 6850	Cetostearyl alcohol	4.4
D	Silicone Active	Various Silicones	1
E	Fragrance 6113578	Fragrance	0.1

Five formulations were tested, SilForm INX emulsion, Amodimethicone emulsion, Silicone Quaternium Emulsion, Dimethicone emulsion and a negative control.

- 6 of 6 panelists preferred the fragrance of the damaged curly tresses treated with SilForm INX fluid 24 hours after treatment.

Test II: Fruity Floral type fragrance: Floral Fruity R13-5175 from Robertet, Inc. in a Leave-on Conditioner:

All conditions the same as Test 1.

- 6 of 6 panelists preferred the fragrance of the damaged curly tresses treated with SilForm INX fluid 1-2 hours after treatment and 24 hours after treatment.
- SilForm INX fluid was able to help hair maintain a strong fragrance aroma 24 hours after treatment; as opposed to the other treatments which maintained minimal aroma.
- After 3 days, only the hair treated with SilForm INX fluid had a fragrance impression.

Test III: Floral type fragrance: Fragrance 6113578 from Bell Flavors & Fragrances Inc. in a Rinse-off Conditioner

Prepare a rinse-off conditioner containing 1% active silicone and 0.1% fragrance. Apply 1.2g rinse off conditioner/4g hair. Rub in evenly and wash with warm water. Blow dry at low heat for 30 minutes to fully dry. Four formulations were tested; SilForm INX fluid emulsion, Amodimethicone emulsion, Silicone Quaternium Emulsion, and a negative control.

- 5 of 5 panelists preferred the damaged curly tresses treated with SilForm INX fluid 1-3 hours after treatment and 24 hours later.
- After 3 days, only hair treated with SilForm INX fluid had a fragrance impression.

Sample Formulations:

Satin-smooth Vanishing Cream

Phase	Ingredients	INCI Name	Wt (%)
A	De-mineralized Water	Aqua	q.s.
	EDTA ⁽¹⁾	Disodium EDTA	0.05
B	Stearic Acid ⁽¹⁾	Stearic Acid	17.0
	SilForm INX fluid ⁽²⁾	Bis-Carboxydecyl Dimethicone	3.0
	Butylated Hydroxytoluene ⁽¹⁾	BHT	0.02
	Galaxy 610 ⁽³⁾	Glycol Distearate	0.5
	Lanette† D ⁽⁴⁾	Cetearyl Alcohol	0.5
	Isopropyl Palmitate	Isopropyl Palmitate	3.0
	C	Water	Aqua
	Potassium Hydroxide	Potassium Hydroxide	0.3
	D	De-mineralized Water	Aqua
	Dipropylene Glycol ⁽¹⁾	Dipropylene Glycol	1
	Koelin 910 ⁽⁵⁾	Titanium dioxide	0.2
	Glycerin ⁽¹⁾	Glycerin	1
E	Novemer† EC-2 ⁽⁶⁾	Sodium Acrylates/ Beheneth-25 Methacrylate Crosspolymer (and) Hydrogenated Polydecene (and) Lauryl Glucoside	0.5
	F	De-mineralized Water	Aqua
	Vitamin B3 ⁽¹⁾	Niacinamide	2
G	Preservative	Preservative	QS

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Procedure:

1. In the main vessel prepare phase A Heat to 85 °C.
2. Weigh oil phase (B) into a smaller vessel heat to 85 °C and mix until a uniform phase is obtained.
3. Add phase B to A under high speed stirring at 85 °C followed by immediately addition of KOH Solution (C) for neutralization. Continue to mix the resultant emulsion at high speed until a uniform cream is obtained.
4. Combine phase D ingredients into a paste and add to the cream in the main vessel and continue high speed mixing for 5-10 min.
5. Homogenize the cream for 5 min at 5000 rpm at 85 °C.
6. Stop the homogenization and cool down the mix to 45 °C with slow stirring.
7. Combine phase F and add to the mix with mixing. Finally add Novemer-EC2 (E) and preservative (F) and mix for 10 min.
8. Slowly cool to room temperature and store in suitable container.

Supplier Reference

1. Sigma Aldrich
2. Momentive Performance Materials Inc.
3. Galaxy Surfactants Ltd.
4. BASF Corp.
5. Koel Chemicals
6. Lubrizol

*SilForm is a trademark of Momentive Performance Materials Inc.
 †Kalcol and †Amidet are trademarks of Kao Kabushiki Kaisha TA Kao Corporation
 †Lanette is a trademark of Cognis IP Management GmbH.
 †Novemer is a trademark of Lubrizol Advanced Materials, Inc.

Test Performance Data (continued)

Overnight Spray

	Trade name	INCI Name	wt [%]
A	Water	Aqua	QS to 100%
	Magnesium Sulfate	Magnesium Sulfate	0.3
	Preservative	Preservative	As recommended
B	SilForm INX fluid	Bis-Carboxydecyl Dimethicone	1
	Silsoft* 034⁽¹⁾ organosilicone fluid	Caprylyl Methicone	15
	Argan oil	Argania Spinosa Kernel Oil	0.2
	Wheat Germ Oil	Triticum Vulgare (Wheat) Germ Oil	0.4
	Silsoft ETS⁽¹⁾ organosilicone fluid	Ethyltrisiloxane	5.0
	Schercemol [†] NGDO ⁽²⁾ ester	Neopentyl Glycol Diethylhexanoate	8.0
	Isopropyl Myristate	Isopropyl Myristate	15
	Fragrance	Fragrance	QS

Procedure:

- 1) Mix all ingredients of phase A.
- 2) Mix all ingredients of phase B.
- 3) Fill in Container as 2-phase spray.
- 4) Shake before use.

Supplier Reference

1. Momentive Performance Materials Inc.
2. Lubrizol

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Cream Blush

	Ingredients	INCI Name	wt [%]
A	SilForm INX⁽¹⁾ fluid	Bis-Carboxydecyl Dimethicone	10.00
	Silsoft ETS⁽¹⁾ organosilicone fluid	Ethyl Trisiloxane	28.50
	Velvesil* 125⁽¹⁾ silicone copolymer	Cyclopentasiloxane (and) C30-45 Alkyl Cetearyl Dimethicone Crosspolymer	20.00
	SilForm 60-A⁽¹⁾ emulsifier	PEG/PPG-20/15 Dimethicone (and) Diisopropyl Adipate	5.00
	20% NaOH Solution	Water (and) Sodium Hydroxide	0.50
B	SF1632	Cetearyl Methicone	5.00
	Jeenate 5H ⁽²⁾	Polyethylene	10.00
C	Softouch* CCS102⁽¹⁾ powder	Boron Nitride	2.00
	Tospearl* 1110A⁽¹⁾ microspheres	Polymethylsilsesquioxane	5.00
	Tospearl 145A⁽¹⁾ microspheres	Polymethylsilsesquioxane	4.00
	BTD-11S2 ⁽³⁾	Titanium Dioxide (and) Triethoxycaprylylsilane	2.00
	KTZ Crimson ⁽³⁾	Mica (and) Titanium Dioxide (and) Iron Oxides [C.I. 77491] (and) Carmine	1.00
	KTZ Celandon Red ⁽³⁾	Mica (and) Titanium Dioxide (and) Carmine	4.00
	KTZ Aruban Coral ⁽³⁾	Mica (and) Titanium Dioxide (and) Iron Oxides [C.I. 77491]	2.00
D	Optiphen [†] (4) preservative	Phenoxyethanol (and) Caprylyl Glycol	1.00

Procedure:

1. Mix phase A, homogenize, heat to 85 °C.
2. Add phase B, stir thoroughly until uniform.
3. Remove heat, add phase C.
4. At 40°C, add phase D.
5. Stir until homogenous and pour into suitable container at 40 °C.

Supplier Reference

1. Momentive Performance Materials Inc.
2. Jeen International
3. Kobo Products, Inc.
4. Ashland Specialty Products

Test Performance Data (continued)

Sheer Lipstick

	Ingredients	INCI Name	wt [%]
A	SilForm INX⁽¹⁾ INX fluid	Bis-Carboxydecyl Dimethicone	6.00
	Velvisol* 034⁽¹⁾ silicone polymer	Caprylyl Methicone (and) C30-45 Alkyl Cetearyl Dimethicone Crosspolymer	6.00
	Ozokerite Wax Pastilles SP-1020P ⁽²⁾	Ozokerite	1.00
	Shea Butter ⁽³⁾	Shea Butter	17.50
	Cropure [†] Olive ⁽⁴⁾	Olea Europaea (Olive) Fruit Oil	5.00
	SilShine* 151⁽¹⁾ gloss additive	Phenylpropyldimethylsiloxysilicate	2.50
	White Beeswax NF Pastilles SP-422P ⁽²⁾	Beeswax	3.00
	Softisan [†] 649 ⁽⁵⁾ lanolin substitute	Bis Diglyceryl Polyacyladipate-2	15.10
	Candelilla Wax SP-75 ⁽²⁾	Euphorbia Cerifera (Candelilla) Wax	17.55
	Coloreze [†] Red Lake Dispersion LJ ⁽⁶⁾	D&C Red 7 Ca Lake (and) Ricinus Communis (Castor) Seed Oil	4.70
	KTZ [†] Winterveld ⁽⁷⁾	Titanium Dioxide (and) Mica (and) Iron Oxides [C.I. 77491]	5.80
	Optiphen [†] ⁽⁸⁾ preservative	Phenoxyethanol (and) Caprylyl Glycol	1.00
B	20% NaOH Solution	Water (and) Sodium Hydroxide	0.35
	Silsoft* ETS⁽¹⁾ organosilicone fluid	Ethyl Trisiloxane	14.50

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Procedure:

1. At room temperature, add ingredients in order from top to bottom.
2. Heat to 85 °C, stir thoroughly.
3. Add in phase B ingredients dropwise, stir until homogenous and pour into mold while hot.

Supplier Reference

1. Momentive Performance Materials Inc.

2. Strahl & Pitsch, Inc.
3. Protameen Chemicals, Inc.
4. Croda, Inc.
5. Sasol Olefins & Surfactants GmbH
6. IFC Solutions
7. Kobo Products, Inc.
8. Ashland Specialty Products

[†]Cropure is a trademark of Croda Inc.

[†]Softisan is a trademark of Cremer Oleo GmbH & Co. KG.

[†]Coloreze is a trademark of IFC Solutions.

[†]KTZ is a trademark of Kobo Products Inc.

[†]Optiphen is a trademark of Ashland Licensing and Intellectual Property LLC, Aqualon Company, Hercules Incorporated and ISP Investments Inc.

[†]Veegum is a trademark of Vanderbilt Minerals, LLC.

[†]Methocel is a trademark of Dow Chemical Company.

[†]Promulgen is a trademark of The Lubrizol Corporation

Eyeshadow Cream

	Ingredients	INCI Name	wt [%]
A	Water	Water	QS
	Preservative	Preservative	as recommended
	Veegum [†] Pure ⁽³⁾ magnesium aluminum silicate	Magnesium Aluminum Silicate	0.50
	Methocel [†] 40-202 ⁽⁴⁾ cellulose ether	Hydroxypropyl Methylcellulose	0.20
	Disodium EDTA	Disodium EDTA	0.20
	20% NaOH Solution	Water (and) Sodium Hydroxide	1.00
B	SilForm INX⁽¹⁾ fluid	Bis-Carboxydecyl Dimethicone	10.00
	Velvisol* 125⁽¹⁾ silicone copolymer	Cyclopentasiloxane (and) C30-45 Alkyl Cetearyl Dimethicone Crosspolymer	10.00
C	Stearic Acid	Stearic Acid	4.00
	Glyceryl Stearate	Glyceryl Stearate	2.50
	Promulgen [†] D ⁽⁵⁾ emulsifiers	Cetearyl Alcohol, Ceteareth-20	1.00
	Candelilla Wax ⁽⁶⁾	Euphorbia Cerifera (Candelilla) Wax	2.00
	BUB-I2 ⁽⁷⁾	Ultramaries (and) Isopropyl Titanium Triisostearate	1.80
	BRO-I2 ⁽⁷⁾	Iron Oxides [C.I. 77491] (and) Isopropyl Titanium Triisostearate	0.30
	BTD-11S2 ⁽⁷⁾	Titanium Dioxide (and) Triethoxycaprylsilane	2.00
	KTZ [†] Interfine Gold ⁽⁷⁾	Mica (and) Titanium Dioxide	6.00
D	Silsoft ETS⁽¹⁾ organosilicone fluid	Ethyl Trisiloxane	15.00

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Procedure:

1. Mix phase A, heat to 80 °C.
2. In a separate container, mix phase B, homogenize.
3. Add phase C to phase B, heat to 85 °C, stir thoroughly until uniform.
4. Add B/C to main vessel, homogenize.
5. Remove heat, add pigments.
6. At 40 °C, add phase D.
7. Stir until homogenous and pour into suitable container at 40 °C.

Supplier Reference

1. Momentive Performance Materials Inc.

2. Ashland Specialty Products
3. Vanderbilt Minerals LLC
4. Dow Chemical Company
5. Lubrizol
6. Strahl & Pitsch, Inc.
7. Kobo Products, Inc.

Test Performance Data (continued)

Creamy Lip Color

Phase	Ingredients	INCI Name	Wt (%)
A	SE30⁽¹⁾	Dimethicone	5.00
	Permethyl [†] 99A ⁽²⁾ Isododecane	Isododecane	19.50
B	SilForm INX⁽¹⁾ fluid	Bis-Carboxydecyl Dimethicone	10.00
	Silsoft* ETS⁽¹⁾ organosilicone fluid	Ethyl Trisiloxane	25.00
C	Bentone Gel [†] 38V ⁽³⁾	Disteardimonium Hectorite	10.00
	SF1642⁽¹⁾	C30-45 Alkyl Dimethicone	5.00
	Ceralution [†] H ⁽⁴⁾ emulsifier	Behenyl Alcohol (and) Glyceryl Stearate (and) Glyceryl Stearate Citrate (and) Disodium Ethylene Dicoamide PEG-15 Disulfate	5.00
D	20% NaOH Solution	Water (and) Sodium Hydroxide	0.50
E	KTZ [†] Aruban Coral ⁽⁵⁾	Mica (and) Titanium Dioxide (and) Iron Oxides [C.I. 77491]	12.00
	BTD-11S2 ⁽⁵⁾	Titanium Dioxide (and) Triethoxycaprylsilane	5.00
	KTZ [†] Crimson ⁽⁵⁾	Mica (and) Titanium Dioxide (and) Iron Oxides [C.I. 77491] (and) Carmine	3.00

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

Procedure:

1. Dissolve SE30 in Isododecane.
2. Mix in phase B ingredients until dissolved in Silsoft ETS organosilicone fluid.
3. Add phase C ingredients as listed and heat to 70 °C while stirring.
4. Once base is homogenous, add phase D dropwise and pigments and stir until uniform.
5. Homogenize for 3 minutes.
6. Let cool while stirring, compensate evaporation lost with Silsoft ETS organosilicone fluid.
7. Stir until homogenous and fill into appropriate containers.

*Supplier Reference***1. Momentive Performance Materials Inc.**

2. Presperse Corporation
3. Elementis Specialties, Inc.
4. Sasol Olefins & Surfactants
5. Kobo Products, Inc.

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[†]Permethyl is a trademark of Persperse Corporation.
[†]Bentone Gel is a trademark of Elementis Specialties, Inc.
[†]Ceralution is a trademark of Sasol Germany GmbH.
[†]KTZ is a trademark of Kobo Products Inc.

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Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative.

For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

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