

Personal Care

The Formulation Lab: Skin, sun and color

DOW

®





Seek Together™

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Sophisticated solutions for changing consumer desires

Today's consumers expect increasingly sophisticated products that answer all their perceived needs for skin care, sun care and color cosmetics.

What if you had a reliable source for the latest expertise and laboratory support? A material supplier who understands and shares your need to anticipate trends and ever-changing consumer preferences? A collaborator who would work side by side with you to help you stay ahead of the competition?

Imagine the impact we could make ... together!

Dow has decades of experience developing performance-enhancing technologies that can help you design innovative formulations – and preempt the whims and demands of your market.

With our full set of solutions, you can create products that spread easily for smoother, easier application and uniform pigment dispersion – products that retain their features and last longer than others currently on the market. We can help you minimize the tacky or greasy feel of other ingredients and create products that are light and soft and exhibit a silky feel, both during and after application.

Additional product options available

This guide contains selected products for color cosmetics, skin care and sun care applications. For information about additional products that may be suitable for your application, contact your Dow representative.

How to use this guide

- **Product benefits and attributes:** Select the critical benefits for your application (skin, sun or color) and use the table to identify which products offer the targeted benefits.
- **Product details:** Review products by type and read detailed benefits of each product for skin, sun and color applications.
- **Technical details:** Focus on our emulsifiers and rheology modifiers.

Product benefits and attributes

Product form and name	Formulation				Skin						
	Emulsifier	Film-forming agent	Rheology modifier/ texture builder	Suspension aid	Appearance				Sensorial		
					Gloss/shine	Matte finish	Sebum or oil absorption	Imperfection masking/soft focus	Reduced greasiness	Enhanced spreadability	
LIQUID											
DOWSIL™ FZ- 3196 Fluid					•					•	•
DOWSIL™ 556 Cosmetic Grade Fluid					••						•
DOWSIL™ 5200 Formulation Aid	•••		+								
DOWSIL™ ES-5226 DM Formulation Aid ³	•••		+							• ⁴	
DOWSIL™ ES-5612 Formulation Aid	•••		+							• ⁴	
DOWSIL™ ES-5300 Formulation Aid	•••		+							• ⁴	
DOWSIL™ ES-5600 Formulation Aid	•••		+							• ⁴	
DOWSIL™ BY 25-337	•••		+								
DOWSIL™ ES-5373 Formulation Aid	•••										•
XIAMETER™ PMX-1502 Fluid		•			•						
XIAMETER™ PMX-1503 Fluid		•			•						
DOWSIL™ FA 4002 ID Silicone Acrylate ⁶		•••			••						
DOWSIL™ FA 4003 DM Silicone Acrylate		•••			••						
DOWSIL™ FA 4004 ID Silicone Acrylate		•••			••						
DOWSIL™ FA PEPS Silicone Acrylate		•••			••						
DOWSIL™ FC-5002 IDD Resin Gum ⁷		•••			•••						
DOWSIL™ 3901 Liquid Satin Blend ⁸			• ⁹		•						
UCON™ 75-H-450											
Fluid AP Low Odor										•	•
SOLID											
DOWSIL™ MQ-1600 Solid Resin		•••			•						
DOWSIL™ MQ-1640 Flake Resin		•••			•						
DOWSIL™ 2501 Cosmetic Wax											
DOWSIL™ 2503 Cosmetic Wax											
DOWSIL™ SW-8005 C30 Resin Wax		•	•••			•					
DOWSIL™ VM-2270 Aerogel Fine Particles			••			•	•••	•			
DOWSIL™ 9701 Cosmetic Powder			•			•	••	•		•	
DOWSIL™ EP-9801 Hydro Cosmetic Powder						•	••	••		•	•••
DOWSIL™ EP-9610 Cosmetic Powder			•			•	••			•	
FOAMYSENSE™ N750 Polymer											•
FOAMYSENSE™ 205 Polymer											•
FOAMYSENSE™ N60K Polymer											•
FOAMYSENSE™ 301 Polymer											•
SoftCAT™ SKMH											
UCARE™ Polymer JR-30M											
SunSpheres™ Powder ¹²										•	
SunSpheres™ BIO SPF Booster										•	

Benefit level: • Good •• Better ••• Best

+ See "Technical details: Emulsifiers" table for more details regarding texture impact.

¹ Tested as neat product, not in a formulation.

² SPF ranking is based on a specific emulsion formulation.

³ Also available in a nonvolatile carrier (Dimethicone 5 cSt) as DOWSIL™ ES-5227 DM Formulation Aid.

⁴ Stabilizes water-in-silicone emulsions, which are less greasy than water-in-oil.

⁵ Via stabilization of high-glycerin-content emulsion.

Benefits/attributes														
		Sun					Color				Skin cleansing, body wash and shaving			
		Protection					Increased color intensity/uniformity	Flexibility	Color durability	Color non-transfer	Skin conditioning	Foaming enhancer	Cleansing	Appearance enhancer
Powdery/smooth	Slip/lubricity	Moisturization	Wash-off ¹	SPF ² (oil-in-water)	SPF ² (water-in-oil)	Wash-off (oil-in-water)								
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⁶ Also available in an alternative carrier (Cyclopentasiloxane) as DOWSIL™ FA 4001 CM Silicone Acrylate.
⁷ Also available in an alternative carrier (Cyclopentasiloxane) as DOWSIL™ FC-5001 CM Resin Gum or in an alternative carrier (Dimethicone 1.5 cSt) as DOWSIL™ FC-5004 DM Resin Gum.
⁸ Also available in an alternative carrier (Isododecane) as DOWSIL™ 3903 Liquid Satin Blend.
⁹ Stringy texture.
¹⁰ Smooth/silky feel.
¹¹ Perceived.
¹² Also available in water as SunSpheres™ PGL.

(table continues on next page)

Product benefits and attributes *(continued)*

Product form and name	Formulation				Skin						
	Emulsifier	Film-forming agent	Rheology modifier/ texture builder	Suspension aid	Appearance				Sensorial		
					Gloss/shine	Matte finish	Sebum or oil absorption	Imperfection masking/soft focus	Reduced greasiness	Enhanced spreadability	
PASTE											
DOWSIL™ 9241 DM Silicone Elastomer Blend			••			•				•	
DOWSIL™ EL-9240 Silicone Elastomer Blend			••			•				•	
DOWSIL™ EL-8048 ID Silicone Organic Blend			••			•				•	
DOWSIL™ EL-8050 ID Silicone Organic Elastomer Blend ¹³			••			•				•	
DOWSIL™ EL-7040 Hydro Elastomer Blend	■		••			•				•	
DOWSIL™ 9576 Smooth Away Elastomer			••			•		•••		•	
AQUEOUS											
DOWSIL™ 9509 Silicone Elastomer Suspension ¹⁴			• ¹⁵			•	•	••			
EcoSmooth™ OptiTouch						•	••	•			
DOWSIL™ HMW 2220 Non-Ionic Emulsion		•	•• ¹⁵								
DOWSIL™ FA 4103 Silicone Acrylate Emulsion		•••									
ACULYN™ 22 Rheology Modifier	•		++								
ACULYN™ 28 Rheology Modifier	•		++								
ACULYN™ 38 Rheology Modifier			++	••							
ACULYN™ 44 Rheology Modifier			++								
ACULYN™ EXCEL Rheology Modifier			++	••							
ACULYN™ Siltouch Rheology Modifier	••		++								
EcoSense™ 1200 Surfactant											
EcoSense™ 919 Surfactant											
EcoSense™ 3000 Surfactant											
EPITEX™ 66 Polymer		•••									
OPULYN™ 301 Opacifier											
OPULYN™ 302B Opacifier											

Benefit level: • Good •• Better ••• Best

++ See "Technical details: Rheology modifiers" table for more details about this product line.

¹ Tested as neat product, not in a formulation.

² SPF ranking is based on a specific emulsion formulation.

¹³ Also available in an alternative carrier (Isodecyl Neopentanoate) as DOWSIL™ EL-8051 ID Silicone Organic Elastomer Blend or in an alternative carrier (Isohexadecane) as DOWSIL™ EL-8052 IH Silicone Organic Elastomer Blend.

¹⁴ Also available with Chlorphenesin + Phenoxyethanol preservative as DOWSIL™ PF-9510 Silicone Elastomer Suspension and with Phenoxyethanol preservative as DOWSIL™ BY 29-119.

¹⁵ In water-in-silicone.

■ DOWSIL™ EL-7040 Hydro Elastomer Blend has the ability to incorporate water and glycerin within the gel structure.

Benefits/attributes														
		Sun					Color				Skin cleansing, body wash and shaving			
		Protection					Increased color intensity/ uniformity	Flexibility	Color durability	Color non-transfer	Skin conditioning	Foaming enhancer	Cleansing	Appearance enhancer
Powdery/ smooth	Slip/lubricity	Moisturization	Wash-off ¹	SPF ² (oil-in-water)	SPF ² (water-in-oil)	Wash-off (oil-in-water)								
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Product details

Product type		Product name	INCI name	Key benefits in skin care
Specialty silicone fluids		DOWSIL™ FZ- 3196 Fluid	Caprylyl Methicone	<ul style="list-style-type: none"> • Good compatibility with organic oils • Moderate volatility • High flash point • Excellent spreadability • Improved spreadability of organic oils • Reduced greasiness (mineral and vegetable oils) • Unique light and smooth feel
		DOWSIL™ 556 Cosmetic Grade Fluid	Phenyltrimethicone	<ul style="list-style-type: none"> • Good compatibility with organic oils • Gloss • Pleasant skin feel
Silicone acrylates		DOWSIL™ FA 4002 ID Silicone Acrylate ²	Isododecane (and) Acrylates/ Polytrimethylsiloxymethacrylate Copolymer	<ul style="list-style-type: none"> • Protection against pollution in specific water-in-silicone emulsions
		DOWSIL™ FA 4003 DM Silicone Acrylate	Dimethicone (and) Acrylates/ Polytrimethylsiloxymethacrylate Copolymer	<ul style="list-style-type: none"> • Protection against pollution in specific water-in-oil emulsions • Sebum resistance • Water resistance
		DOWSIL™ FA 4004 ID Silicone Acrylate	Isododecane (and) Acrylates/ Polytrimethylsiloxymethacrylate Copolymer	<ul style="list-style-type: none"> • Film flexibility • Permeability to water • High sebum resistance • Comfort in wear
		DOWSIL™ FA PEPS Silicone Acrylate	Undecane (and) Tridecane (and) Acrylates/ Polytrimethylsiloxymethacrylate	<ul style="list-style-type: none"> • Film flexibility • Permeability to water • High sebum resistance • Comfort in wear
		DOWSIL™ FA 4103 Silicone Acrylate Emulsion	Acrylates/ Polytrimethylsiloxymethacrylate (and) Laureth-1 Phosphate	<ul style="list-style-type: none"> • Sebum resistance • Water resistance • Skin-tightening sensation
Silicone resins		DOWSIL™ MQ-1600 Solid Resin	Trimethylsiloxysilicate	
		DOWSIL™ MQ-1640 Flake Resin	Trimethylsiloxysilicate (and) Polypropylsilsesquioxane	
		DOWSIL™ FC-5002 IDD Resin Gum ³	Isododecane (and) Trimethylsiloxysilicate/ Dimethiconol Crosspolymer	<ul style="list-style-type: none"> • Water resistance • Sebum resistance
Ultra-high viscosity silicone polymers	Gum blends	XIAMETER™ PMX-1502 Fluid	C11-13 Isoparaffin (and) Dimethiconol (and) Isohexadecane (and) Dimethicone	<ul style="list-style-type: none"> • Film barrier properties • Light velvety feel • Good oil compatibility
		XIAMETER™ PMX-1503 Fluid	Dimethicone (and) Dimethiconol	<ul style="list-style-type: none"> • Film barrier properties • Long-lasting lubricious, velvety feel
	Emulsion	DOWSIL™ HMW 2220 Non-Ionic Emulsion	Divinyldimethicone/Dimethicone Copolymer (and) C12-C13 Pareth-23 (and) C12-C13 Pareth-3	<ul style="list-style-type: none"> • Wash-off resistance • Smooth skin feel • Enhanced foam in shower gels • Increased viscosity of water-in-silicone • Moisture perception in leave-on and rinse-off applications
Silicone waxes		DOWSIL™ 2511 Cosmetic Wax	BIS-PEG-18 Methyl Ether Dimethyl Silane	<ul style="list-style-type: none"> • Reduced tackiness of glycerin • Perception of skin smoothness for peel-off mask • Suitable for translucent skin toner
		DOWSIL™ 2503 Cosmetic Wax	Stearyl Dimethicone (and) Octadecene	<ul style="list-style-type: none"> • Melt at body temperature • Moisturization • Wash-off resistance • Semi-occlusive • Good compatibility with organic oils
		DOWSIL™ SW-8005 C30 Resin Wax	C30-45 Alkyldimethylsilyl Polypropylsilsesquioxane	<ul style="list-style-type: none"> • Structuring agent • Good compatibility with organic oils • Blur effect in combination with particles • Protection against pollution in specific oil-in-water emulsions • Fragrance retention • Semi-occlusive
Aerogel		DOWSIL™ VM-2270 Aerogel Fine Particles	Silica Silylate	<ul style="list-style-type: none"> • Sebum absorption • Thickening of oil phase (polar to nonpolar oils) • Wrinkle masking/soft focus

¹ SPF ranking is based on a specific emulsion formulation; water-in-silicone or -oil emulsions typically provide high wash-off resistance.

² Also available in an alternative carrier (Cyclopentasiloxane) as DOWSIL™ FA 4001 CM Silicone Acrylate.

³ Also available in an alternative carrier (Cyclopentasiloxane) as DOWSIL™ FC-5001 CM Resin Gum or in an alternative carrier (Dimethicone 1.5 cSt) as DOWSIL™ FC-5004 DM Resin Gum.

Additional benefits in sun care ¹	Additional benefits in color care
SPF boosting in water-in-oil	Improved gloss and color intensity in lipstick; dispersing media for hydrophobic pigments; good cleansing
Anti-stick; anti-whitening; SPF boosting	Pigment-dispersing fluid
SPF boosting in oil-in-water	Silicone dendrimer acrylate (40%) in Isododecane; hard film; long lasting; transfer resistance; wash-off resistance; good oil compatibility
Good compatibility with UVA filters	Silicone dendrimer acrylate (40%) in Dimethicone; high film flexibility; long-lasting color; rub-off resistance
	High rub-off resistance; wash-off resistance; high sebum resistance
	Silicone acrylate copolymer in a bio-based carrier for improved naturalness and better sustainability; long lasting; non-transfer; wash-off resistance and high sebum resistance
Wash-off resistance	Silicone dendrimer acrylate (30%) in water; high film flexibility; long-lasting color and rub-off resistance; ideal for waterborne formulations
	MQ resin (no carrier); hard film; long lasting; no transfer; wash-off resistance
SPF boosting	MQ and T-propyl resin (no carrier); flexible; durable; non-transfer; wash-off resistance; good color intensity/uniformity
	Silicone resin gum (40%) in Isododecane; improves transfer resistance of mascara; improves compaction in pressed powder; long lasting; rub-off resistance
SPF boosting in water-in-oil	
SPF boosting in water-in-oil	
	Good film integrity
Reduced tackiness	
Improved wash-off resistance in oil-in-water sun care	
Improved wash-off resistance in oil-in-water; SPF boosting in water-in-oil	Transfer resistance; uniform appearance of powder products

(table continues on next page)

Product details *(continued)*

Product type		Product name	INCI name	Key benefits in skin care
Silicone elastomers	Powders	DOWSIL™ 9701 Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica	<ul style="list-style-type: none"> • Wrinkle masking/soft focus • Sebum absorption • Powdery feel • Viscosity builder in water-in-silicone • High oil absorption
		DOWSIL™ EP-9801 Hydro Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica (and) Butylene Glycol	<ul style="list-style-type: none"> • Wrinkle masking/soft focus • Sebum absorption • Powdery feel • Water dispersible • Matte effect
		DOWSIL™ EP-9610 Cosmetic Powder	Dimethicone Crosspolymer	<ul style="list-style-type: none"> • Superior softness • Elastomeric bouncing feel • Oil/sebum absorption • Matte effect • Allows various textures • Ease of use
	Blends	DOWSIL™ EL-9240 Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	<ul style="list-style-type: none"> • Carrier: Dimethicone 2 cSt • Silky feel • Viscosity builder • Reduced greasiness
		DOWSIL™ 9241 DM Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	<ul style="list-style-type: none"> • Smooth, silky long-lasting feel • Increased viscosity of anhydrous or water-in-oil formulations • Binder for compact powder • Nonvolatile carrier: Dimethicone 5 cSt • Reduced greasiness
		DOWSIL™ EL-8048 ID Silicone Organic Blend	Isododecane (and) Dimethicone Crosspolymer	<ul style="list-style-type: none"> • Powdery feel • Able to deliver actives • Good oil compatibility
		DOWSIL™ EL-8050 ID Silicone Organic Elastomer Blend ⁴	Isododecane (and) Dimethicone/Bis-Isobutyl PPG-20 Crosspolymer	<ul style="list-style-type: none"> • Good oil compatibility • Dry silky feel • Increased viscosity • Clear formulations • Reduced greasiness
		DOWSIL™ EL-7040 Hydro Elastomer Blend	Caprylyl Methicone (and) PEG-12 Dimethicone/PPG-20 Crosspolymer	<ul style="list-style-type: none"> • Can incorporate water, water-soluble and organic ingredients • Fresh feel with elastomer texture • Gel texture with up to 50% water and 40% glycerin • Clear system • Allows creation of fast-breaking emulsion
		DOWSIL™ 9576 Smooth Away Elastomer	Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer (and) Dimethicone Crosspolymer (and) Beeswax (and) Silica (and) Silica Silylate	<ul style="list-style-type: none"> • Minimized appearance of pores • Masking of fine lines, wrinkles, lip lines • Water-based and anhydrous systems • Processing time advantage • Unique texture • Smooth feel
		DOWSIL™ 9509 Silicone Elastomer Suspension ⁵	Dimethicone/Vinyl Dimethicone Crosspolymer (and) C12-14 Pareth-12	<ul style="list-style-type: none"> • Sebum control • Ease of dispersion • Smooth, silky feel • Mattifying • Wrinkle masking/soft focus • Viscosity builder in water-in-silicone
Ultra-high molecular weight silicone branched polymer	DOWSIL™ 3901 Liquid Satin Blend ⁶	Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer	<ul style="list-style-type: none"> • Stringy texture • High lubricity and gloss • Smooth, satin-like feel • Perceived moisturization 	
Polyurethane	ACULYN™ 44 Rheology Modifier	PEG-150/Decyl Alcohol/SMDI Copolymer	<ul style="list-style-type: none"> • Ease of use • Wide pH range and compatible with cationic ingredients • Delivers a rich, creamy texture to formulations 	

¹ SPF ranking is based on a specific emulsion formulation; water-in-silicone or -oil emulsions typically provide high wash-off resistance.

⁴ Also available in an alternative carrier (Isodecyl Neopentanoate) as DOWSIL™ EL-8051 ID Silicone Organic Elastomer Blend or in an alternative carrier (Isohexadecane) as DOWSIL™ EL-8052 IH Silicone Organic Elastomer Blend.

⁵ Also available with Chlorphenesin + Phenoxyethanol preservative as DOWSIL™ PF-9510 Silicone Elastomer Suspension and with Phenoxyethanol preservative as DOWSIL™ BY 29-119.

⁶ Also available in an alternative carrier (Isododecane) as DOWSIL™ 3903 Liquid Satin Blend.

Additional benefits in sun care ¹	Additional benefits in color care
	Increased color intensity in lipstick
	Compaction aid for pressed powder
	Reduced rub-off on fabrics
Excellent fit for sun care	
	Improved color intensity in foundation
SPF boosting in water-in-oil	

(table continues on next page)

Product details *(continued)*

Product type		Product name	INCI name	Key benefits in skin care
Acrylic polymers	Emulsions	ACULYN™ Siltouch Rheology Modifier	Sodium Acrylate/Sodium Acryloyldimethyl Taurate Copolymer (and) Dimethicone (and) Trideceth-6 (and) PEG/PPG-18/18 Dimethicone	<ul style="list-style-type: none"> Ease of use Compatible with a broad range of oils, including silicones
		ACULYN™ 22 Rheology Modifier	Acrylates/Stearth-20 Methacrylate Copolymer	<ul style="list-style-type: none"> Compatible with difficult-to-thicken surfactant systems
		ACULYN™ 28 Rheology Modifier	Acrylates/Beheneth-25 Methacrylate Copolymer	<ul style="list-style-type: none"> Useful as a standalone polymeric emulsifier Delivers quick-break benefits
		ACULYN™ 38 Rheology Modifier	Acrylates/Vinyl Neodecanoate Crosspolymer	<ul style="list-style-type: none"> Nonsticky feel Excellent suspending agent for thick and rich texture in body washes
		ACULYN™ EXCEL Rheology Modifier	Acrylates Copolymer	<ul style="list-style-type: none"> Suspending agent for clear systems across broad pH range
		EPITEX™ 66 Polymer	Acrylates Copolymer	<ul style="list-style-type: none"> Compatible with a broad range of personal care ingredients Effective at low use level
	Emulsions	SunSpheres™ Powder ⁷	Styrene/Acrylates Copolymer	<ul style="list-style-type: none"> Ease of use Wide compatibility
		OPULYN™ 301 OPULYN™ 302B	Styrene/Acrylates Copolymer	<ul style="list-style-type: none"> Impart a milky, lotion-like appearance with uniform opacity to formulations at very low use levels (0.1% up to 1% as is) Enable formulators to make claims such as luxurious, creamy textures
Ethylene/octene copolymer	EcoSmooth™ OptiTouch	Ethylene/Octene Copolymer (and) Ethylene/Sodium Acrylate Copolymer	<ul style="list-style-type: none"> Wrinkle and pore masking Soft focus Sebum absorption Matte effect 	
Alkyl glucoside	EcoSense™ 1200 Surfactant	Lauryl Glucoside	<ul style="list-style-type: none"> Mild surfactants for cleansing applications 	
	EcoSense™ 919 Surfactant	Coco Glucoside		
	EcoSense™ 3000 Surfactant	Decyl Glucoside		
Polyquaternium	UCARE™ JR30 M Polymer	Polyquaternium-10	<ul style="list-style-type: none"> Deposition aid for fragrances, actives and emollients 	
	SoftCAT™ SK-MH Polymer	Polyquaternium-67	<ul style="list-style-type: none"> Deposition aid for fragrances, actives and emollients Enables clear body washes 	
	CELLOSIZET™ Texture 40-0100 Hydroxypropyl Methylcellulose	Hydroxypropyl Methylcellulose	<ul style="list-style-type: none"> Water-soluble nonionic thickeners for viscosity building in mild cleansing systems Foam boosting Ease of use Wide compatibility 	
	CELLOSIZET™ Texture 40-0202 Hydroxypropyl Methylcellulose			
	SunSpheres™ BIO SPF Booster	Microcrystalline Cellulose		
Polyethylene glycol	FOAMYSENSE™ N750 Polymer	PEG-7M	<ul style="list-style-type: none"> Additives for bar soap that provide a nice after-feel, fragrance retention and reduced cracking Longer-lasting bar soap exhibiting lower mush 	
	FOAMYSENSE™ 205 Polymer	PEG-14M		
	FOAMYSENSE™ N60K Polymer	PEG-45M		
	FOAMYSENSE™ 301 Polymer	PEG-90M		
Polypropylene glycol	UCON™ 75-H-450	PEG/PPG-17/6 Copolymer	<ul style="list-style-type: none"> Provides emolliency, solvency and slip Water soluble 	
	Fluid AP Low Odor	PPG-14 Butyl Ether	<ul style="list-style-type: none"> Provides emolliency, solvency and slip Suspends antiperspirant actives Oil soluble 	

¹ SPF ranking is based on a specific emulsion formulation; water-in-silicone or -oil emulsions typically provide high wash-off resistance.

⁷ Also available in water as SunSpheres™ PGL.

Additional benefits in sun care ¹	Additional benefits in color care
Wash-off resistance	Organic film-former for sunscreens and color cosmetics; excellent water resistance; lower cost in use
Boosts UVA and UVB performance of inorganic and organic sunscreen filters	
	Facilitates pigment wetting and spreadability

Technical details: Silicone emulsifiers

Product type	Product name	INCI name	Carrier	Dispersed material	HLB (calculated)	Use level (%)			SPF boosting	Pigment dispersant	Additional benefits
						80/20	70/30	60/40			
Water-in-oil	DOWSIL™ 5200 Formulation Aid	Lauryl PEG/PPG-18/18 Methicone	No	No	2	1-2	2-4	3-6	•	•	Water-in-wax systems
	DOWSIL™ ES-5226 DM Formulation Aid ¹	Dimethicone (and) PEG/PPG-18/18 Dimethicone	Dimethicone 2 cSt (volatile)	Yes (37-40%)	2	3-5	5-8	5-12			
	DOWSIL™ ES-5612 Formulation Aid	PEG-10 Dimethicone	No	No	4	2-3	3-5	5-8		•	Can stabilize high level of glycerin; stable low-viscosity pigmented emulsions
	DOWSIL™ ES-5300 Formulation Aid	Lauryl PEG-10 Tris-(trimethylsiloxy)-silylethyl Dimethicone	No	No	3	2-3	3-5	5-8	•	•	Reduced whitening in sun care applications; stable low-viscosity pigmented emulsions
	DOWSIL™ ES-5600 Silicone Glycerol Emulsifier	Cetyl Diglyceryl Tris-(Trimethylsiloxy)-silylethyl Dimethicone	No	No	2	1-3	3-6	5-8	•	•	Reduced whitening in sun care applications; stable low-viscosity pigmented emulsions
	DOWSIL™ BY 25-337	PEG/PPG-19/19 Dimethicone (and) C13-16 Isoparaffin (and) C10-13 Isoparaffin	C13-16 Isoparaffin (and) C10-13 Isoparaffin	Yes (48-52%)	3	2-4	2-6	6-8			Can stabilize high level of glycerin

Product type	Product name	INCI name	Carrier	Dispersed material	HLB (calculated)	Oil phase (%)	Emulsifier (%)	SPF boosting	Pigment dispersant
Oil-in-water	DOWSIL™ ES-5373 Formulation Aid	PEG-12 Dimethicone	No	No	8	20-30	1.5-2		
						30-45	2-4		
						45-55	4-5		

• Offers benefits.

¹Also available in a nonvolatile carrier (Dimethicone 5 cSt) as DOWSIL™ ES-5227 DM Formulation Aid.

NOTES:

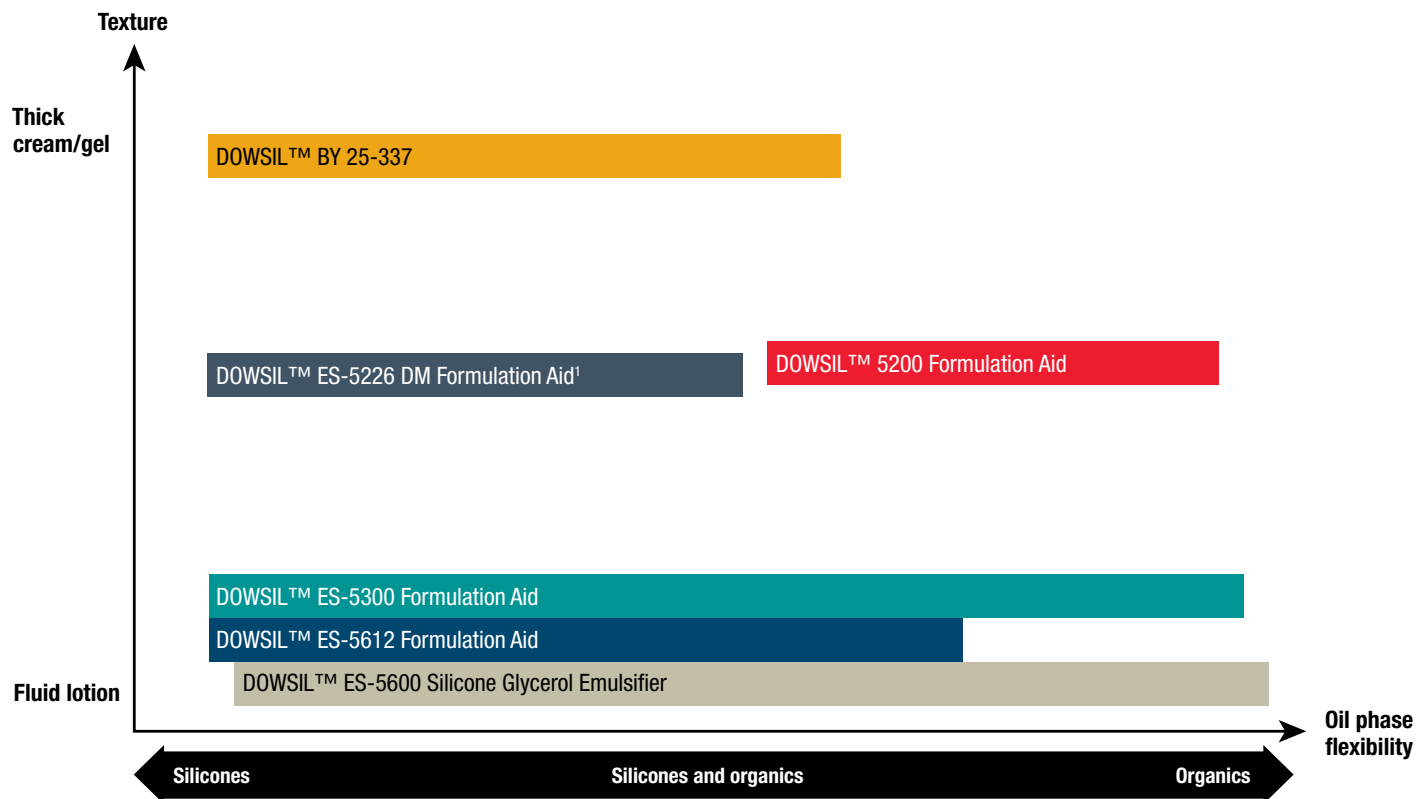
All emulsifiers <0.1% D4 and D5.

All emulsifiers to be used for skin, sun, color.

Technical details: Rheology modifiers

Product name	INCI name	Solvent	% solid	Ionicity	pH as supplied	pH of use
ACULYN™ 22 Rheology Modifier	Acrylates/Steareth-20 Methacrylate Copolymer	Water	30	Anionic	2.7	6-10
ACULYN™ 28 Rheology Modifier	Acrylates/Beheneth-25 Methacrylate Copolymer	Water	20	Anionic	3	5-10
ACULYN™ 38 Rheology Modifier	Acrylates/Vinyl Neodecanoate Crosspolymer	Water	29	Anionic	3	6-10
ACULYN™ 44 Rheology Modifier	PEG-150/Decyl Alcohol/SMDI Copolymer	Water	35	Nonionic	8.5	3-10
ACULYN™ EXCEL Rheology Modifier	Acrylates Copolymer	Water	31	Anionic	3.5	3-10
ACULYN™ Siitouch Rheology Modifier	Sodium Acrylate/Sodium Acryloyldimethyl Taurate Copolymer (and) Dimethicone (and) Trideceth-6 (and) PEG/PPG-18/18 Dimethicone	Water	27	Anionic	NA	4-10

Silicone emulsifiers map



¹Also available in a nonvolatile carrier (Dimethicone 5 cSt) as DOWSIL™ ES-5227 DM Formulation Aid.

Sensory profile	Rheology profile	Thickening capability	Associative behavior	Key features
NA	Rich feel; nonsticky; slightly stringy	Very high	High	Efficient for difficult-to-thicken surfactant systems
Watery, refreshing feel	Quick break; excellent spreadability	Very high	Very high	General purpose thickener; very efficient at building viscosity; excellent polymeric emulsifier
NA	Thin pouring texture	Moderate	None	Excellent suspending agent for thin-pour formulations; exhibits a nonsticky feel; provides formulations with excellent viscosity stability
Luxurious, creamy feel	Good pickup	Low	High	A nonionic thickener usable over a wide pH range and compatible with cationic ingredients; delivers a rich, creamy texture to formulations
NA	Nice pouring flow	High	Intermediate	Excellent suspending agent for clear systems; usable across a broad pH range, including acidic pH
Smooth, light feel; nonsticky	Supple; good pickup	High	None	Easy-to-use thickener with excellent emulsifying properties; enables a silicone touch; usable over a wide pH range

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