

PERSONAL CARE

# Specialty elastomers from Dow



**DOW**

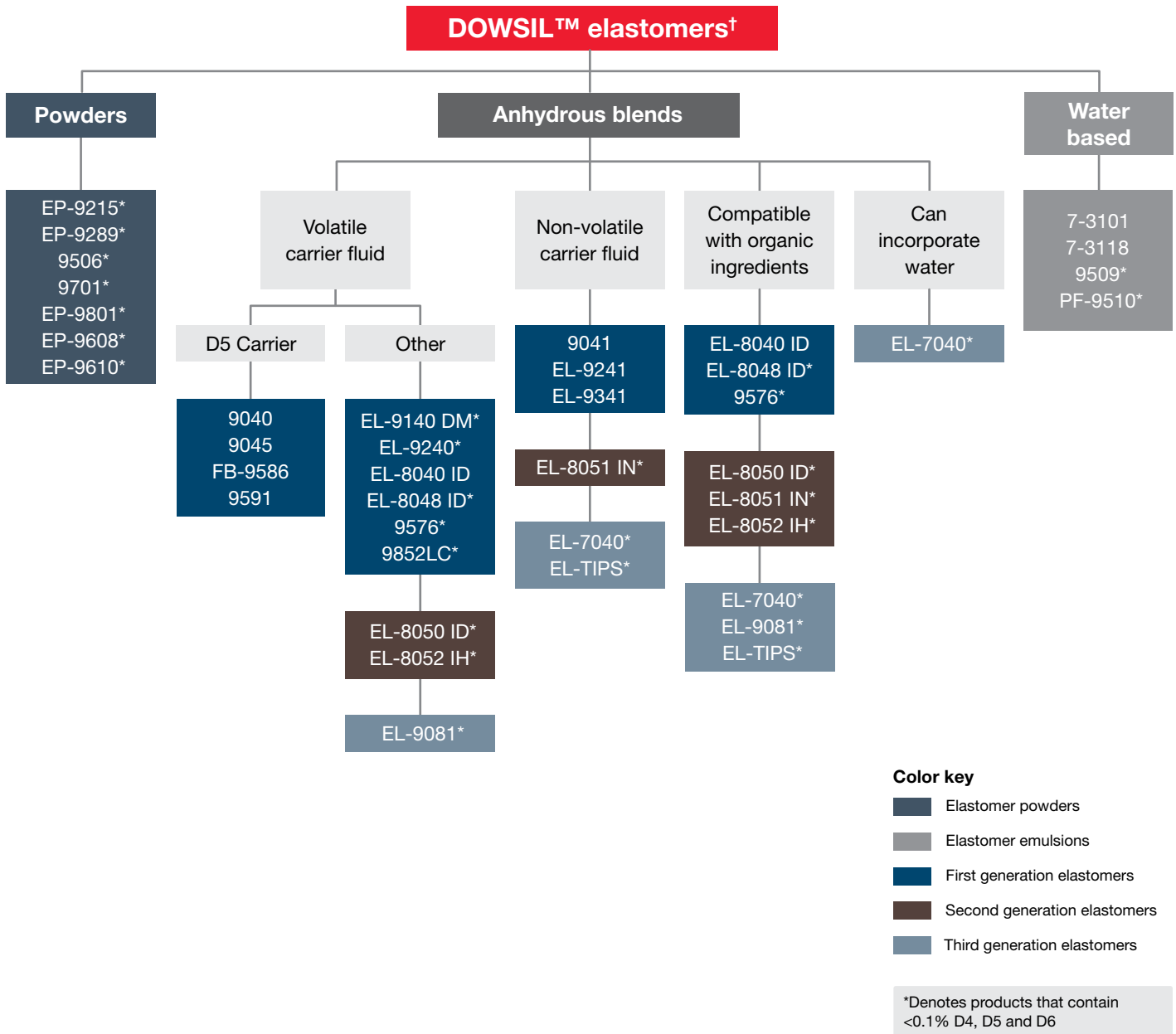


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## DOWSIL™ Elastomer offerings at a glance

DOWSIL™ Elastomers are specialty silicone products that offer multifunctional benefits to formulations, including a unique silky powdery feel, sebum absorption, wrinkle masking, delivery of actives, film formation and active suspension.



† See tables on pages 3-9 for full product names.

## Silicone elastomer suspensions: pre-emulsified water dispersible elastomers

Trade name	INCI name	Preservative system	Typical elastomer content	D4	D5	D6	Features
DOWSIL™ 7-3101 Elastomer Blend HIP Emulsion	Cyclopentasiloxane (and) Dimethicone Crosspolymer (and) Dimethicone (and) Laureth-23 (and) Laureth-4	Phenoxyethanol + Paraben	15%	<1%	NA	NA	<ul style="list-style-type: none"> <li>• High internal phase (85% active) emulsion</li> <li>• Easily diluted with water</li> <li>• Enables cold blending and low shear processing</li> <li>• Simple aesthetic modification</li> </ul>
DOWSIL™ 7-3118 EBAP HIP Emulsion	Cyclopentasiloxane (and) Dimethicone Crosspolymer (and) Dimethicone (and) Laureth-23 (and) Laureth-4	Phenoxyethanol + Potassium Sorbate	15%	<1%	NA	NA	<ul style="list-style-type: none"> <li>• High internal phase (85% active) emulsion</li> <li>• Easily diluted with water</li> <li>• Enables cold blending and low shear processing</li> <li>• Simple aesthetic modification</li> </ul>
DOWSIL™ 9509 Silicone Elastomer Suspension	Dimethicone/Vinyl Dimethicone Crosspolymer (and) C12-14 Pareth-12	Hydroxybenzoate + Chlorophenesin + Phenoxyethanol + Benzoic Acid	63%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• High oil and sebum absorption</li> <li>• Reduces greasiness</li> <li>• Mattifying</li> </ul>
DOWSIL™ PF-9510 Silicone Elastomer Suspension	Dimethicone/Vinyl Dimethicone Crosspolymer (and) C12-14 Pareth-12	Chlorophenesin + Phenoxyethanol	63%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Alternative preservative version of DOWSIL™ 9509 Silicone Elastomer Suspension</li> </ul>

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NT: Not tested or identified

## Silicone elastomer gels/blends: Oil dispersible elastomer gels

Trade name	INCI name	Carrier fluid	Carrier volatility	Viscosity	NVC	D4	D5	D6	Features
DOWSIL™ 9040 Elastomer Blend	Cyclopentasiloxane (and) Dimethicone Crosspolymer	Cyclopentasiloxane	Volatile	250,000 to 580,000 cP	12% to 12.75%	<1%	NA	NA	<ul style="list-style-type: none"> <li>• Smooth powdery feel</li> <li>• Fragrance delivery</li> <li>• Oil phase thickener</li> <li>• Actives delivery</li> </ul>
DOWSIL™ 9045 Silicone Elastomer Blend	Cyclopentasiloxane (and) Dimethicone Crosspolymer	Cyclopentasiloxane	Volatile	350,000 to 550,000 cP	12% to 12.75%	<1%	NA	NA	<ul style="list-style-type: none"> <li>• Smooth powdery feel</li> <li>• Fragrance retention</li> <li>• Oil phase thickener</li> </ul>
DOWSIL™ 9591 Cosmetic Powder Dispersion	Cyclopentasiloxane (and) Polysilicone-11	Cyclopentasiloxane	Volatile	30,000 to 70,000 cP	21% to 26%	<0.1%	NA	NA	<ul style="list-style-type: none"> <li>• Dry smoothness and light, silky, non-greasy skin feel</li> <li>• Soft focus, masks imperfections</li> <li>• Sebum absorption</li> </ul>
DOWSIL™ FB-9586 Silicone Elastomer Blend	Cyclopentasiloxane (and) Dimethicone/ Vinyl dimethicone Crosspolymer (and) Dimethicone	Cyclopentasiloxane, Dimethicone	Volatile	30,000 to 70,000 cPs	40% to 50%	<0.1%	NA	NA	<ul style="list-style-type: none"> <li>• Smooth, slippery, powdery skin feel</li> <li>• Non-greasy, non-tacky</li> <li>• Matte appearance</li> </ul>
DOWSIL™ EL-9140 DM Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	Dimethicone (1.5 cSt)	Volatile	350,000 to 575,000 cP	13.25% to 14.75%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Oil phase thickener</li> <li>• Smooth, powdery feel</li> </ul>
DOWSIL™ 9576 Smooth Away Elastomer	Dimethicone (and) Dimethicone Crosspolymer (and) Dimethicone/ Vinyl Dimethicone Crosspolymer (and) Beeswax (and) Silica (and) Silica Silylate	Dimethicone (1.5 cSt)	Volatile	150,000 to 300,000 cP	15% to 17%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Optimized for soft focus and imperfection masking</li> <li>• Smooth, powdery feel</li> </ul>
DOWSIL™ EL-9240 Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	Dimethicone (2 cSt)	Volatile	350,000 to 575,000 cP	13% to 14.5%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Oil phase thickener</li> <li>• Smooth, powdery feel</li> </ul>

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NT: Not tested or identified

Trade name	INCI name	Carrier fluid	Carrier volatility	Viscosity	NVC	D4	D5	D6	Features
DOWSIL™ 9852LC Silicone Gel	Dimethicone (and) Dimethicone/ Vinyl Dimethicone Crosspolymer	Dimethicone (2 cSt)	Volatile	18,000 to 50,000 cP	24% to 28%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Dry smoothness and a light, silky, non-greasy skin feel</li> <li>• Soft focus, imperfections masking</li> <li>• Sebum absorption</li> </ul>
DOWSIL™ EL-9081 Silicone Elastomer Blend	Dimethicone (and) Dimethicone/ Vinyl Dimethicone Crosspolymer	Dimethicone (2 cSt)	Volatile	250,000 to 500,000 cP	13.55% to 15.05%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Smooth feel</li> <li>• Improved organic compatibility</li> <li>• Non-balling</li> <li>• Viscosity builder with lower use dosage</li> <li>• Low color and odor</li> <li>• High transparency</li> </ul>
DOWSIL™ 9041 Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	Dimethicone (5 cSt)	Non- volatile	300,000 to 500,000 cP	N/A	<1%	<1%	<1%	<ul style="list-style-type: none"> <li>• Long lasting skin feel</li> <li>• Typical elastomer content 14%</li> <li>• Oil phase thickener</li> </ul>
DOWSIL™ EL-9241 DM Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	Dimethicone (5 cSt)	Non- volatile	300,000 to 500,000 cP	N/A	<0.1%	<0.1%	<1%	<ul style="list-style-type: none"> <li>• Long lasting skin feel</li> <li>• Typical elastomer content 15-16%</li> <li>• Oil phase thickener</li> </ul>
DOWSIL™ EL-9341 Silicone Elastomer Blend	Dimethicone (and) Dimethicone Crosspolymer	Dimethicone (6cSt)	Non- volatile	300,000 to 500,000 cP	N/A	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Long lasting skin feel</li> <li>• Typical elastomer content 15-16%</li> <li>• Oil phase thickener</li> </ul>
DOWSIL™ EL-8040 ID Silicone Organic Blend	Isododecane (and) Dimethicone Crosspolymer	Isododecane	Volatile	300,000 to 550,000 cP	15.25% to 16.75%	<1%	<1%	<1%	<ul style="list-style-type: none"> <li>• Elastomer feel with organic carrier</li> <li>• Low transfer in color cosmetic formulations</li> </ul>
DOWSIL™ EL-8048 ID Silicone Organic Blend	Isododecane (and) Dimethicone Crosspolymer	Isododecane	Volatile	200,000 to 400,000 cP	13.50% to 16.50%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Elastomer feel with organic carrier</li> <li>• Low transfer in color cosmetic formulations</li> </ul>
DOWSIL™ EL-TIPS Silicone Elastomer Blend	C13-15 Alkane (and) Dimethicone/ Vinyl Dimethicone Crosspolymer	C13-15 Alkane	Non- volatile	250,000 to 550,000 cP	N/A	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Smooth feel in formulation</li> <li>• Typical elastomer content is ~26.5%</li> <li>• Blurring effect on skin</li> <li>• Carrier origin sugar cane source (Biofermentation)</li> <li>• 0.7 natural origin index per ISO-16128-2</li> <li>• High transparency</li> <li>• Ideal for high natural content formulations</li> </ul>

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## Silicone Organic Elastomer Blends (SOEB): Oil dispersible gels with enhanced organic compatibility

Trade name	INCI name	Carrier fluid	Carrier volatility	Viscosity	NVC	D4	D5	D6	Features
DOWSIL™ EL-8050 ID Silicone Organic Elastomer Blend (SOEB)	Isododecane (and) Dimethicone/ Bis-Isobutyl PPG-20 Crosspolymer	Isododecane	Volatile	350,000 to 575,000 cP	14.25% to 15.75%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Organic compatibility</li> <li>Ability to create clear anhydrous systems</li> <li>Oil phase thickener</li> <li>Sensory threshold: 5% for both O/W and W/O</li> <li>Transfer resistance</li> <li>Mattifying</li> </ul>
DOWSIL™ EL-8051 IN Silicone Organic Elastomer Blend (SOEB)	Isodecyl Neopentanoate (and) Dimethicone/ Bis-Isobutyl PPG-20 Crosspolymer	Isodecyl Neopentanoate	Non- volatile	350,000 to 575,000 cP	N/A	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Organic compatibility</li> <li>Typical elastomer content is 15%</li> <li>Ability to create clear anhydrous systems</li> <li>Oil phase thickener</li> <li>Sensory threshold: 8% for O/W and 5% for W/O</li> <li>Improves color intensity in color cosmetics</li> <li>Mattifying</li> </ul>
DOWSIL™ EL-8052 IH Silicone Organic Elastomer Blend (SOEB)	Isohexadecane (and) Dimethicone/ Bis-Isobutyl PPG-20 Crosspolymer	Isohexadecane	Volatile	350,000 to 575,000 cP	16% to 17.5%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Organic compatibility</li> <li>Provides dry smoothness and light, silky, lubricated skin feel</li> <li>Ability to create clear anhydrous systems</li> <li>Oil phase thickener</li> <li>Mattifying</li> </ul>

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NT: Not tested or identified



# Hydrophilic elastomer blend

Trade name	INCI name	Carrier fluid	Carrier volatility	Viscosity	NVC	D4	D5	D6	Features
DOWSIL™ EL-7040 Hydro Elastomer Blend	Caprylyl Methicone (and) PEG-12 Dimethicone/ PPG-20 Crosspolymer	Caprylyl Methicone	Volatile	275,000 to 995,000 cP	17.5% to 19.5%	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>• Ability to incorporate water and polar materials</li> <li>• Compatibility with polar and organic materials</li> <li>• Smooth, spreadable, non-tacky skin feel</li> <li>• Ability to create fast breaking emulsions that deliver refreshing burst of water to skin</li> <li>• Cold processing</li> <li>• Can incorporate both hydrophilic and lipophilic actives</li> <li>• Ability to create clear systems</li> <li>• Oil phase thickener</li> </ul>



## Silicone elastomer powders: dry, oil-dispersible powders

Trade name	INCI name	Particle size	D4	D5	D6	Features
DOWSIL™ EP-9215 Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer	2-7 microns	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Oil and sebum absorption</li> <li>Mattifying</li> <li>Powder hardness = 60</li> </ul>
DOWSIL™ EP-9289 LL Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Lauroyl Lysine	NT	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Powder compaction</li> <li>Sebum absorption</li> </ul>
DOWSIL™ 9506 Powder	Dimethicone/Vinyl Dimethicone Crosspolymer	1-6 microns	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Oil and sebum absorption</li> <li>Oil phase thickener</li> <li>Powder hardness = 30</li> </ul>
DOWSIL™ EP-9608 Cosmetic Powder	Dimethicone Crosspolymer (and) Dimethicone	1-8 microns	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Oil-loaded crosslinked polymer provides rich sensory with low agglomeration</li> <li>Hides pores and provides excellent affinity to skin</li> <li>Lower particle hardness (7) than other e-powders</li> </ul>
DOWSIL™ EP-9610 Cosmetic Powder	Dimethicone Crosspolymer	1-8 microns	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Provides unique smooth, bouncy and silky feel</li> <li>Oil/sebum absorption</li> <li>Optical mattifying effect</li> <li>Lower particle hardness (10) than other e-powders</li> </ul>
DOWSIL™ 9701 Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica	1-10 microns	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Wrinkle masking</li> <li>Sebum absorption</li> <li>Ease of use: free-flowing, low agglomeration</li> <li>Oil phase thickener</li> </ul>
DOWSIL™ EP-9801 Hydro Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Butylene Glycol (and) Silica	3-10 microns	<0.1%	<0.1%	<0.1%	<ul style="list-style-type: none"> <li>Water dispersible</li> <li>Wrinkle masking</li> <li>Sebum Absorption</li> <li>Ease of use: free-flowing, low agglomeration</li> </ul>



## Organic compatibility

Test material	DOWSIL™ 9045 Silicone Elastomer Blend	DOWSIL™ 9081 Silicone Elastomer Blend	DOWSIL™ EL-8050 ID Silicone Organic Elastomer Blend	DOWSIL™ EL-7040 Hydro Elastomer Blend
Ethylhexylmethoxy Cinnamate (OMC)	4	NC	9	10
Ethylhexyl Salicylate (OS)	9	8	9	10
C12-15 Alkyl Benzoate	NC	7	9	10
Caprylic/Capric Triglyceride	NC	3	9	10
Sunflower oil	2	NC	3	3
Squalane	2	7	2	NC
PPG-15 Stearyl Ether	2	NC	7	8
Mineral oil	3	7	3	NC
Ethanol	1	NC	9	10

### Clarity – color coding

Clear
Slight haze
Hazy
Cloudy
Opaque
Not compatible

### Viscosity – number scale

1 = Liquid ~245 Fluid

3 = Pourable ~10M cst PDMS

5 = Pourable ~60M cst PDMS

9 = Barely pourable when inverted ~300M cst PDMS

10 = Does not flow when inverted

NC = Not compatible; Viscosity not measured

Compatibility evaluated using 75/25 blend of elastomer/solvent



## Paired comparison to DOWSIL™ 9045 Silicone Elastomer Blend

Dow product name		DOWSIL™ 9040 Silicone Elastomer Blend	DOWSIL™ 9041 Silicone Elastomer Blend	DOWSIL™ FB-9586 Silicone Elastomer Blend	DOWSIL™ EL-8040 ID Silicone Organic Blend	DOWSIL™ EL-9140 DM Silicone Elastomer Blend	DOWSIL™ EL-9240 Silicone Elastomer Blend	DOWSIL™ EL-8050 ID SOEB	DOWSIL™ EL-8051 IN SOEB	DOWSIL™ EL-8052 IH SOEB	DOWSIL™ EL-7040 Hydro Elastomer Blend
Before absorption	Wetness	-		+							
	Spreadability			+			+				
	Tackiness	-		-	-	NT	-				
	Absorbancy	+		+		NT					
After absorption	Gloss		+							+	
	Film residue	-	+			+			+		
	Greasiness	-	+	-					+		+
	Tackiness	-		-		-					
	Smoothness	+	-	+	-		+				
	Slipperiness	+		+	-	+	+				+
	Powdery feel	+	-		-	+					

NT: Not tested or identified

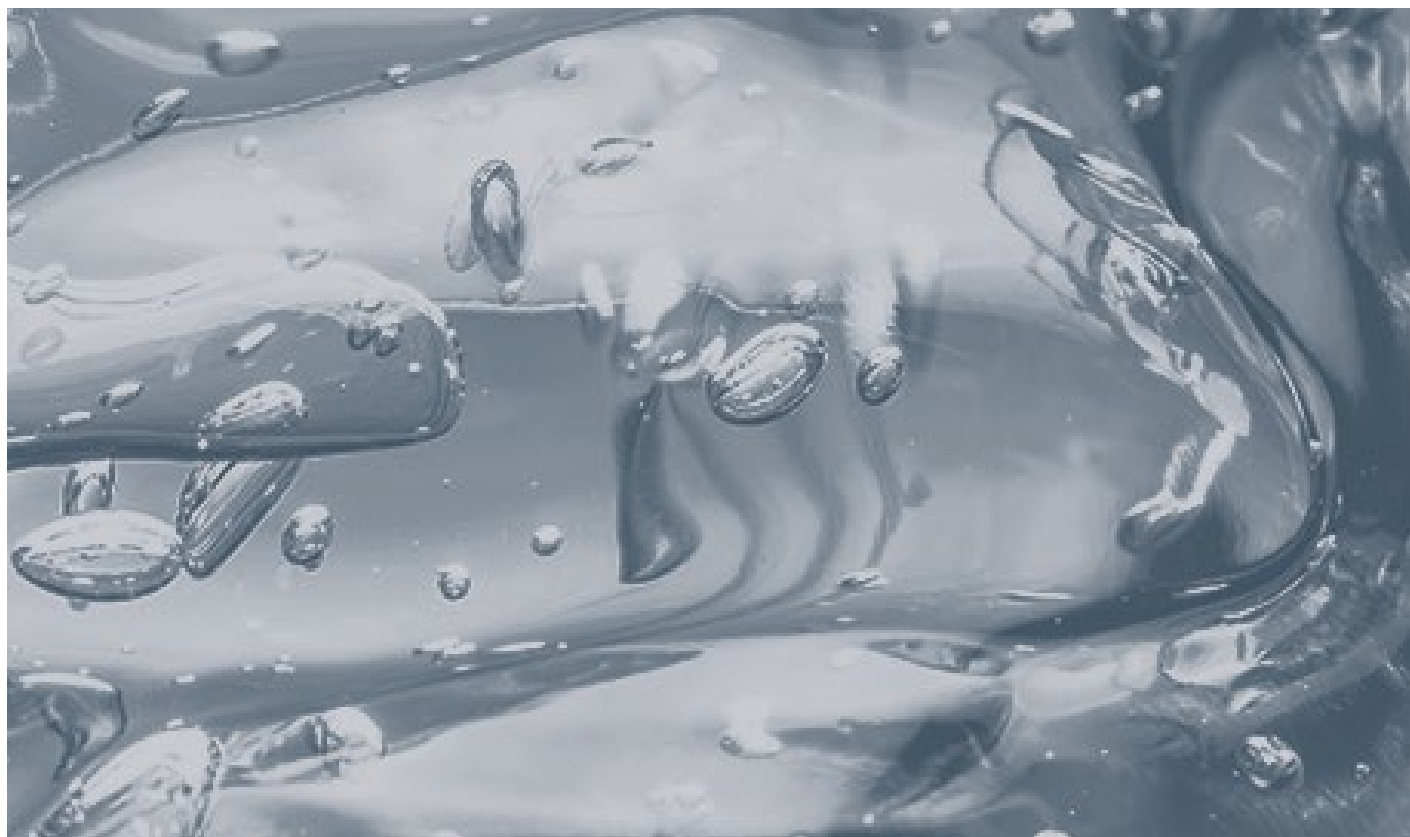
No difference	Different at 95%
Different at 99%	Different at 99.9%

Example: DOWSIL™ 9040 Silicone Elastomer Blend is less tacky (different at 99.9%) than DOWSIL™ 9045 Silicone Elastomer Blend.



## Potential silicone diluents for elastomer gels

Product	INCI name	Viscosity (cP)	Specific gravity	Refractive index	Flash point (°C)
XIAMETER™ PMX-0245 Cyclopentasiloxane	Cyclopentasiloxane	4	0.95	1.397	77
XIAMETER™ PMX-200 Silicone Fluid 1.5 cSt	Dimethicone	1.5	0.85	1.387	57
XIAMETER™ PMX-200 Silicone Fluid 2 cSt	Dimethicone	2	0.87	1.39	87
XIAMETER™ PMX-200 Silicone Fluid 5 cSt	Dimethicone	5	0.91	1.397	124
DOWSIL™ FZ-3196 Fluid	Caprylyl Methicone	2-4	0.83	1.4105-1.4145	110



## Need more information?

Dow has extensive experience with beauty and personal care solutions. Leverage our expertise to help you determine which materials are best suited to your application. Simply visit [dow.com/personalcare](http://dow.com/personalcare) to learn how we can help you bring performance and processability to your products.

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