



DOWSIL™ EL-9081 Silicone Elastomer Blend

INCI Name: Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer

Features & Benefits

- Clear cross-linked silicone elastomer gel delivered in Dimethicone
- Good compatibility with some organic and silicones oils
- Low color
- High clarity
- Less balling¹
- Improved viscosity retention upon dilution¹
- Acts as a thickening agent for silicone fluids

¹Compared to DOWSIL™ EL-9240 Silicone Elastomer Blend and DOWSIL™ 9045 Silicone Elastomer Blend.

Composition

- Approximately 14 weight percent polymer in a volatile fluid (Dimethicone, 2.0 cSt)

Applications

- Can be used in a wide range of personal care products such as skin care, color cosmetics, and hair care
- Rheology and texture modifier in oil-in-water, water-in-oil emulsions and anhydrous gels

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test ¹	Property	Unit	Result
CTM 0050	Viscosity	cP	200,000~500,000
	Appearance		Clear to translucent gel
CTM 0208C	Non-volatile content	%	~14
	Flash point, closed cup	°C	98.5
	Cyclotetrasiloxane level	%	< 0.1
	Cyclopentasiloxane level	%	< 0.1
	Cyclohexasiloxane level	%	< 0.1

1. CTM: Corporate Test Method, copies of CTM's are available on request.

Description

DOWSIL™ EL-9081 Silicone Elastomer Blend is a mixture of high molecular weight silicone elastomer and a volatile silicone fluid (Dimethicone, 2.0 cSt).

How to Use

To incorporate DOWSIL™ EL 9081 Silicone Elastomer Blend into a formula, it should be combined with the oil or silicone phase. Disperse the oil into DOWSIL™ EL 9081 Silicone Elastomer Blend using simple mixing to achieve a uniform dispersion. It is important for the elastomer blend to be uniformly dispersed in the oil/silicone phase before proceeding.

The viscosity of DOWSIL™ EL 9081 Silicone Elastomer Blend decreases as it is diluted with other oils. Figure 1 illustrates this effect when XIAMETER™ PMX-200 Fluid, 2.0 cSt (Dimethicone) is used as the diluent.

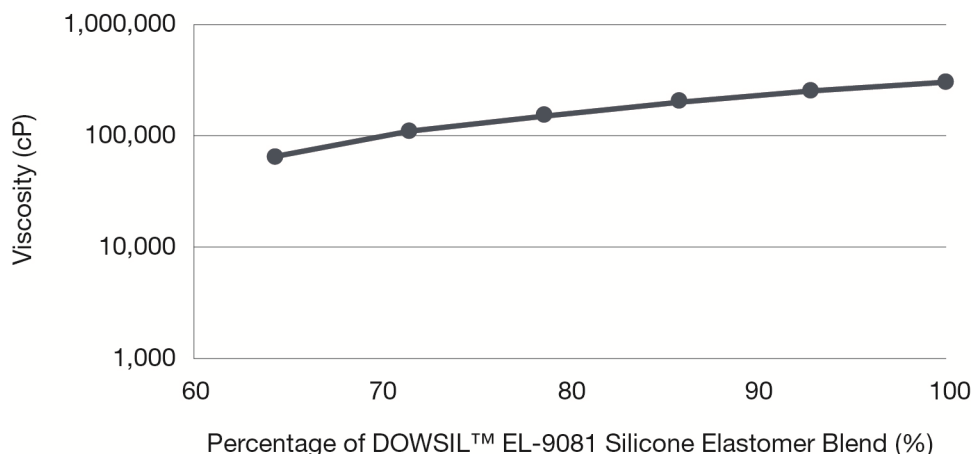


Figure 1: Dilution curve of DOWSIL™ EL-9081 Silicone Elastomer Blend, diluted with XIAMETER™ PMX-200 Fluid, 2.0 cSt (Dimethicone).

Formulation Tips

DOWSIL™ EL-9081 Silicone Elastomer Blend may be formulated into oil-in-water emulsions, water-in-silicone emulsions, water-in-oil emulsions and anhydrous products.

- It may be added to the oil phase or silicone phase in formulations.
- For ease of use, its viscosity may be reduced by blending with low viscosity fluids.
- It is dispersible in a variety of liquid oils, as referenced in the compatibility chart in Table 1.
- Because the elastomer is stable, DOWSIL™ EL-9081 Silicone Elastomer Blend may be subjected to heat for a short duration. When heat is used, the material should be processed in an enclosed vessel to prevent the volatile carrier from volatilizing; the vessel should be inerted at temperatures over 60°C (140°F).

Formulation Tips (Cont.)

Table 1: Compatibility with common cosmetic ingredients at 75%

Wt.% DOWSIL™ EL-9081 Silicone Elastomer Blend:	75%
Esters:	
C12-15 Alkyl Benzoate	H
Caprylic/Capric Triglyceride	H
Isodecyl Neopentanoate	C
Hydrocarbons:	
Isododecane	C
Isohexadecane	C
Mineral Oil	C
Hydrophilics:	
Ethanol	NC
PPG-15 Stearyl Ether	O/SC
Sunscreens:	
Ethylhexyl Salicylate	C
Ethylhexyl Methoxycinnamate	O/SC
Vegetable Oils:	
Sunflower Oil	O/SC
Silicone Fluids:	
Phenyl Trimethicone (DOWSIL™ 556 Cosmetic Grade Fluid)	C
Bis-hydroxyethoxypropyl Dimethicone (DOWSIL™ 5562 Carbinol Fluid)	C
Cyclopentasiloxane (XIAMETER™ PMX-0245 Fluid)	C

C = is Clear to Slight Haze; H = Hazy; O = Cloudy to Opaque; SC = Slightly Compatible; NC = Not Compatible

DOWSIL™ EL-9081 Silicone Elastomer Blend has compatibility with some organic oils.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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