

# Dow Corning® 3901 Liquid Satin Blend

## FEATURES & BENEFITS

- Satin-like feel
- Cold processing
- Clear appearance
- Ability to create clear systems
- Enhanced sensory profile
- Perceived moisturization
- Perceived smoothness
- Listed in the *Catalogue of Cosmetic Ingredients Used in China*

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

## APPLICATIONS

- Skin care
- Color cosmetics
- Hair care
- Body care
- Many other potential formulations

## TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Result
Appearance		Clear to translucent, colorless to slight amber
% Non Volatile Content	wt. %	6.25
Viscosity	cPs	1500
D4/D5 cyclics content	wt. %	<0.1

## DESCRIPTION

Dow Corning® 3901 Liquid Satin Blend is a mixture of a high molecular weight polymer in dimethicone.

## HOW TO USE

Disperse Dow Corning 3901 Liquid Satin Blend into the oil phase of a formulation using simple mixing to help with emulsification or blending with other polar or non-polar oils. There is no need for post-shearing. Formulation with Dow Corning 3901 Liquid Satin Blend can be achieved using cold process.

## Formulation Tips

Dow Corning 3901 Liquid Satin 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 an emulsion formulation.
- It may be post-added to emulsions provided the emulsion is viscous enough for the Dow Corning 3901 Liquid Satin Blend to be dispersed.
- For ease of use, its viscosity may be reduced by blending with dimethicone or other similar non-polar oils.
- It may be necessary to use a syringe or similar device to help weigh out material.
- It may be formulated with organic oils and silicone-based materials with the use of mixers.
- It is dispersible in a variety of liquid oils (refer to Figures 1 and 2).

- Because the polymer is stable, *Dow Corning* 3901 Liquid Satin Blend may be subjected to heat for a short duration. When heat is used, material should be processed in an enclosed vessel to prevent the dimethicone from volatilizing; the vessel should be inerted at temperatures over 80°C (176°F).

### Processing

The following information may be useful when processing *Dow Corning* 3901 Liquid Satin Blend.

### Shear Degradation

The properties of the polymer contained within *Dow Corning* 3901 Liquid Satin Blend can be degraded when exposed to excessive shear. Figure 3 demonstrates the ability to lower the viscosity of the material under various shear for different time periods. The results are shown as % retention of the original material's viscosity. As can be noted, under low shear conditions (mixing such as stirring or agitated vessels) the material is stable. However, as you increase the applied shear to a medium rate (low or medium speed dispersers as one example) the material is stable under lower time exposure but can degrade with longer exposure. Under high shear conditions (rotor stators or high speed dispersers) the material can degrade with short exposure. Each situation is different and needs to be assessed as such, so please be aware of this processing limitation when evaluating this material in formulation and when designing processes.

### Dilution

*Dow Corning* 3901 Liquid Satin Blend can retain its properties upon dilution. Figure 4 shows that as you dilute the material in additional dimethicone fluid, the viscosity drops corresponding to the dilution of the polymer as expected. However, the stringing nature of the material actually increases indicating that the polymer entanglements continue thru dilution with additional fluid.

### Clean-up

A non-polar solvent, which dilutes *Dow Corning* 3901 Liquid Satin Blend, is recommended for soaking or cleaning equipment.

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

### USABLE LIFE AND STORAGE

When stored at or below 40°C (104°F) in the original unopened containers, this product has a usable life of 12 months from the date of production.

### PACKAGING INFORMATION

This product is available in 170 kg drums and 16 kg pails.

Samples are available in 400 ml bottles.

### 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 Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance

(PS&RC) specialists available in each area.

For further information, please see our website, [dowcorning.com](http://dowcorning.com) or consult your local Dow Corning representative.

### LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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**Figure 1: Compatibility**

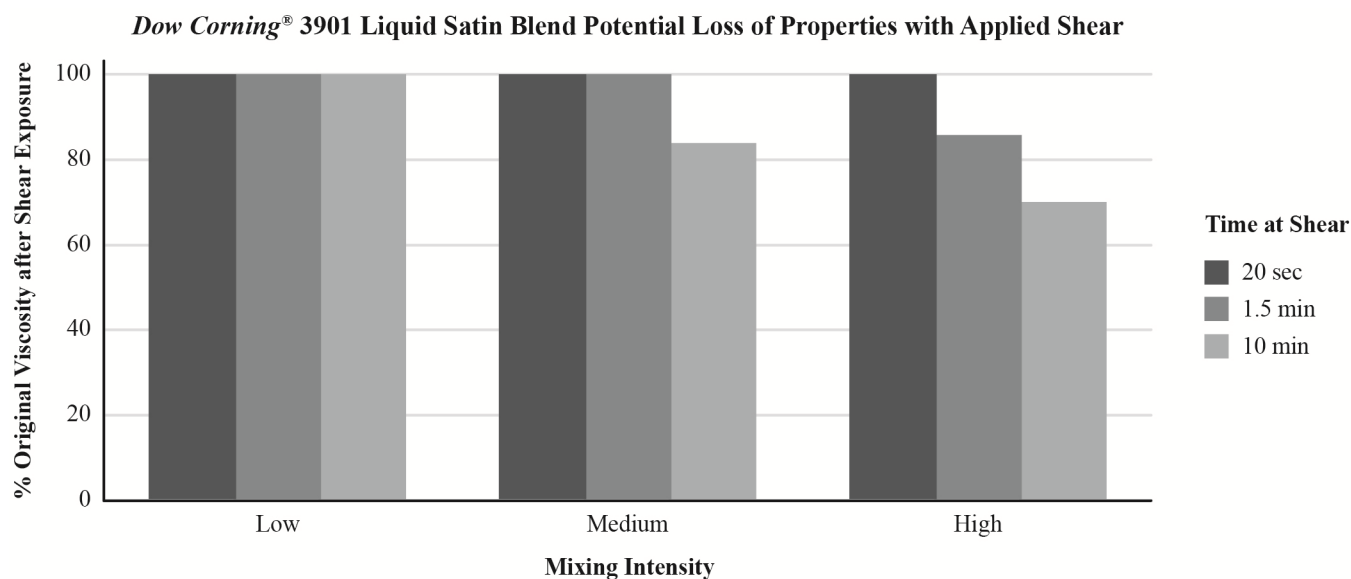
<i>Dow Corning 3901 Liquid Satin Blend:Cosmetic Ingredient</i>			
Cosmetic Ingredient (INCI)	10:90	50:50	90:10
<b>Hydrophilics</b>			
Water	NC	NC	NC
Ethanol	NC	NC	NC
<b>Esters</b>			
Isopropyl Myristate	C	C	C
Isodecyl Neopentanoate	C	C	C
C12-15 Alkyl Benzoate	NC	NC	C
Caprylic/Capric Triglyceride	NC	NC	C
<b>Vegetable Oil</b>			
Sunflower Oil	NC	NC	H
Castor Oil	H	H	H
<b>Sunscreens</b>			
Ethylhexyl Methoxycinnamate	NC	NC	H
Ethylhexyl Salicylate	NC	H	C
Octocrylene	NC	H	H
<b>Silicones</b>			
Cyclopentasiloxane	C	C	C
PDMS 2 CST	C	C	C
PDMS 5 CST	C	C	C
PDMS 100 CST	C	C	C
PDMS 350 CST	C	C	C
Phenyl Trimethicone	C	C	C
Caprylyl Methicone	C	C	C
<b>Hydrocarbons</b>			
Isododecane	C	C	C
Isohexadecane	C	C	C
Mineral Oil	NC	NC	C

NC: Not Compatible, H: Hazy, C: Clear

**Figure 2: Dissolution Times**

Solvent	Time needed
C11-13 Isoparaffin, IDD, IHD, IPM, Cyclopentasiloxane, Phenyl Trimethicone, Caprylyl Methicone	<20 minutes
XIAMETER® PMX-200 SIL FLUID 2 cst, 5 cst, 10 cst	
XIAMETER® PMX-200 SIL Fluid 50 cst, Dicaprylyl Carbonate	
XIAMETER® PMX-200 SIL Fluid 100 cst	20–40 minutes
XIAMETER® PMX-200 SIL Fluid 350 cst	40–60 minutes
Ethanol, Caprylic/Capric Triglyceride, C12-15 Alkyl Benzoate	60–80 minutes
Not Compatible	
<b>Procedure:</b> Mixed 50:50 using a marine propeller at 300 rpm at room temperature.	

**Figure 3: Shear Degradation**



**Figure 4: Dilution**

