



## Technical Data Sheet

# DOWSIL™ MQ-1640 Flake Resin

### FEATURES

- Flexible film former
- Forms permeable film
- Solvent free
- Easy-to-use flake form
- Compatible with silicone and organic carriers

### BENEFITS

- Excellent transfer and wash-off resistance
- Sebum resistance
- Long lasting
- Rub-off resistance
- Comfortable during wear
- Improves color intensity in color cosmetics
- Improves shine
- SPF enhancement
- Ease of formulation
- Non-tacky, slippery feel when dried

### COMPOSITION

- Blend of MQ silicone resin and T Propyl silicone resin

INCI NAME: Trimethylsiloxy silicate (and) Polypropyl silsesquioxane

### APPLICATIONS

- Color cosmetics, skin care, sun care and hair care.

### TYPICAL PROPERTIES

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

Property	Unit	Result
Appearance		White to off-white flakes
Odor		Very little
Specific gravity		1.18
Flash point (Closed cup)	°C	> 100
Cyclotetrasiloxane (D4) content	%	< 0.1
Cyclopentasiloxane (D5) content	%	< 0.1

### DESCRIPTION

DOWSIL™ MQ-1640 Flake Resin is a unique combination of MQ and T Propyl silicone resin. This combination of resin technologies has been especially developed to provide both excellent transfer and wash-off resistance combined with a flexible film and comfortable wear. Even after stretching and washing, the film formed by DOWSIL MQ-1640 Flake Resin remained smooth and undamaged. In sunscreens, DOWSIL MQ-1640 Flake Resin enhanced the SPF wash-off resistance.

### HOW TO USE

To ensure the best film forming properties, it is recommended to use mainly compatible volatile carriers in the oil phase of the formulation.

DOWSIL MQ-1640 Flake Resin can be dissolved in different organic and silicone oils up to a concentration of 50% and more. Table 1 details the compatibility with common cosmetic ingredients at 50% concentration. The time required to dissolve the resin flakes is influenced by the oil type and the mixing temperature. When appropriate, heating up to 70°C can improve dissolution time by up to 80%. It is recommended to add the resin slowly to the oil under agitation to prevent the resin flakes from forming larger aggregates that are difficult to re-disperse. DOWSIL MQ-1640 Flake Resin increases the final viscosity of the carrier depending on the concentration and oil type, resulting in improved stability in emulsions and lipsticks.

**HANDLING  
PRECAUTIONS  
PRODUCT SAFETY  
INFORMATION REQUIRED FOR  
SAFE USE IS NOT INCLUDED IN  
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### **USABLE LIFE AND STORAGE**

No special storage measures are required. When stored at or below 32°C in the original unopened container, the product has a usable life of 24 months.

### **PACKAGING INFORMATION**

This product is available in 20 kg bags.

Samples are available in 500 g.

### **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, [www.consumer.dow.com](http://www.consumer.dow.com) or consult your local Dow representative.

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**Table 1: Compatibility of DOWSIL MQ-1640 Flake Resin with Common Cosmetic Ingredients at 50%**

Common Cosmetic Ingredients	1:1
Water	NC
Ethanol	C
<b><u>Esters</u></b>	
Isopropyl myristate	C
Isopropyl palmitate	C
Dicaprylyl Carbonate	C
Caprylic/Capric Triglycerides	C
C12-15 Alkyl Benzoate	C
<b><u>Hydrocarbons</u></b>	
Mineral oil	NC
Squalane	NC
C11-C13 Isoparaffin	C
Isododecane	C
C13-C15 alkane	C
Isohexadecane	C
<b><u>Silicones</u></b>	
XIAMETER™ PMX-0245 Cyclopentasiloxane	C
XIAMETER™ PMX-200 Silicone Fluid 1-10 cSt	C
DOWSIL™ 556 Cosmetic Grade Fluid	C
DOWSIL™ FZ-3196 Fluid	C
<b><u>Vegetable oil</u></b>	
Sunflower seed oil	NC

NC: Not Compatible; C: Compatible

**Table 2: Performance of the film of DOWSIL MQ-1640 Flake Resin**

Film surface properties		Film permeability	Wash-off resistance on the skin
Contact angle of water	Contact angle of artificial sebum oil	Water loss (g/m <sup>2</sup> ·h)	Remains on the skin after 3 times washing (percentage)
103°	47.6°	76.75	68.76%

