



## Technical Data Sheet

# DOWSIL™ EL-8048 ID Silicone Organic Blend

INCI NAME: Isododecane (and) Dimethicone Crosspolymer

### Features & Benefits

- Clear to slightly translucent crosslinked elastomer gel
- Easy to formulate
- Compatible with a variety of organic ingredients
- Quick absorption
- Cold processing

### Skin Care and Color Cosmetics

- Provides dry smoothness and a light, silky, non-greasy skin feel
- Improved delivery of actives
- Low transfer color cosmetic formulations

### Composition

- Approximately 16 weight percent Dimethicone Crosspolymer in Isododecane

### Applications

This product can be used in skin care applications including:

- Color cosmetics
- Sunscreens

### Typical Properties

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

Property	Unit	Result
Appearance		Crystal clear to slightly translucent gel. May have slight amber color. Free of particulate matter.
Viscosity	mm <sup>2</sup> /s	200,000–450,000
Non-volatile Content	%	< 13.50–16.50
Cyclopentasiloxane	%	< 0.1
Cyclotetrasiloxane	%	< 0.1

### Description

DOWSIL™ EL-8048 ID Silicone Organic Blend is a mixture of high molecular weight silicone elastomer in isododecane.

## How To Use

Disperse the oil phase into DOWSIL EL-8048 ID Silicone Elastomer Blend using simple mixing. There is no need for post-shearing. This product provides isododecane which has already thickened and can provide a novel form of delivery for other formulation components. Thickening of formulations can be achieved using a cold process.

Isododecane may cause skin irritation upon repeated and prolonged exposures. Proper dilution of this product into consumer personal care end products is recommended.

## Formulation Tips

DOWSIL EL-8048 ID Silicone Organic 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 DOWSIL EL-8048 ID Silicone Organic Blend to be dispersed.
- For ease of use, its viscosity may be reduced by blending with a compatible organic solvent.
- It may be formulated with organic oils and silicon-based materials with the use of mixers and may be subjected to high shear devices such as homogenizers and sonolators.
- It is dispersible in a variety of liquid oils.
- Because the elastomer is stable, DOWSIL EL-8048 ID Silicone Organic 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 isododecane from volatilizing; the vessel should be inerted at temperatures over 40°C (104°F).

## Processing

DOWSIL EL-8048 ID Silicone Organic Blend is a viscous product that exhibits shear thinning behavior. The following information will aid in the selection of the proper equipment to use when processing DOWSIL EL-8048 ID Silicone Organic Blend out of a drum.

**Pump Recommendation:** GRACO BULLDOG 10:1 Pump with follower plate. For more information, contact GRACO at [www.graco.com](http://www.graco.com). Note: GRACO offers various BULLDOG models, and other pump manufacturers may offer similar equipment equally capable of processing the material efficiently. Users should work directly with the pump manufacturer to determine the best design for their needs.

### Customer-specific pump design considerations

1. Pressure and flow requirements
  - a. Air supply pressure: Will depend on plant's air supply capabilities.
  - b. Discharge pressure: Will depend on total pressure required to move the silicone organic blend from point A to B. Pressure drops due to elevation, frictional losses within the piping, fitting, valves, filters, etc., will need to be considered.
  - c. Flow requirements: Will depend on how quickly the user wishes to transfer the silicone organic blend from a 208 liter (55 gallon) drum into a vessel.

## **Processing (cont.)**

2. Material viscosity in cP at the application temperature:  
DOWSIL EL-8048 ID Silicone Organic Blend is shear thinning. It is the responsibility of the user to determine the effective viscosity based on the user's application. Once the material is pushed through the pump by the follower plate the processed in the pump, the product will shear thin and process as a lower viscosity fluid.
3. Construction material for wetted parts:  
Stainless steel is recommended but carbon steel may also be used.
4. Construction material for seals and gaskets:  
VITON or TEFLON materials are recommended. Please contact Dow for alternatives.

### **Clean-up**

Isododecane which dilutes the viscosity of DOWSIL EL-8048 ID Silicone Organic Blend to water-thin, is recommended for soaking or cleaning equipment. Other non-polar solvents may work as well.

## **Patent Position**

Dow Chemical is the exclusive licensee of U.S. Patent No. 5,599,533; US Patent No. 6,027,738 and US Patent No. 6,387,405 and any foreign equivalents thereof. Under this license the Licensor covenants not to enforce these patents against any third party who is making, using or selling products covered by these patents for so long as that third party is able to show that they purchased the silicone elastomer used in their product directly from Dow Chemical or Dow Chemical distributor.

## **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 CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW 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 24 months from the date of production.

## **Packaging Information**

This product is available in 12.5 kg pails and 150 kg drums.

Samples are available in 0.35 kg cans.

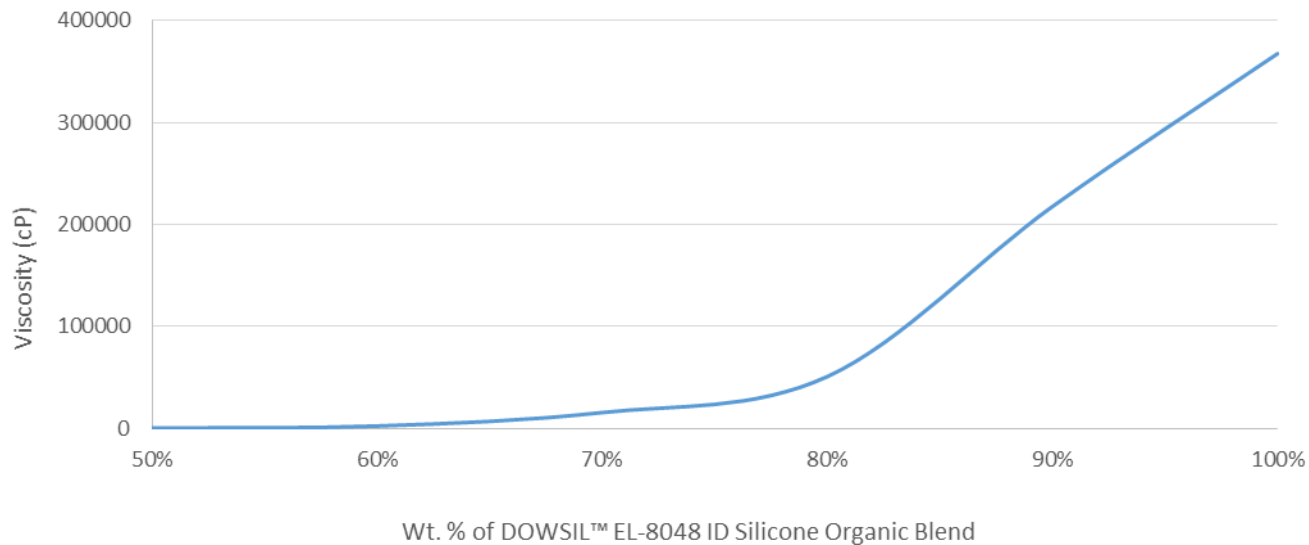
## **Limitations**

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

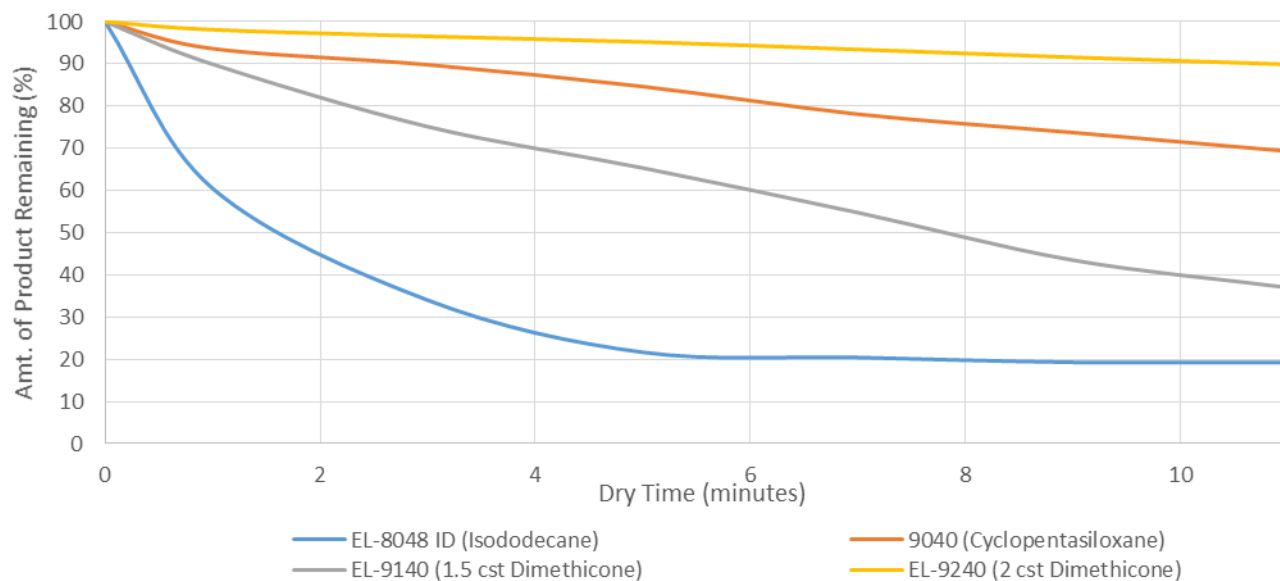
## **Health And Environmental Information**

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



**Figure 1:** Viscosity of DOWSIL EL-8048 ID Silicone Organic Blend after further dilution in Isododecane.\*



**Figure 2:** Volatility of DOWSIL EL-8048 ID compared to other volatile elastomer blends. Tested on collagen at 37°C, 20% rH.\*

\*These are typical properties, not to be construed as specifications.

**Table 1:** Compatibility with common personal care materials.\*

Material	Weight percent of DOWSIL™ EL-8048 ID Silicone Organic Blend		
	90%	50%	10%
<b>Silicones</b>			
Cyclopentasiloxane	C	C	C
Dimethicone, 5cst	C	C	C
Dimethicone, 10cst	C	C	C
Dimethicone, 350 cst	C	C	C
Phenyl Trimethicone	H	H	H
Caprylyl Methicone	C	C	C
<b>Esters</b>			
C12-15 Alkyl Benzoate	H	NC	NC
Caprylic/Capric Triglyceride	H	NC	NC
Isopropyl Myristate	H	NC	NC
<b>Organic Sunscreens</b>			
Octyl Methoxycinnamate	H	NC	NC
Octocrylene	H	NC	NC
Octyl Salicylate	H	NC	NC
<b>Misc.</b>			
Mineral Oil	H	NC	NC
Jobba Oil	H	NC	NC
Ethanol	H	NC	NC
C = compatible, H = Hazy, NC = Not compatible / Separation			

\*These are typical properties, not to be construed as specifications.

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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.

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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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