

Product Information

Personal Care

Dow Corning® EL-8051 IN

Silicone Organic Elastomer Blend

FEATURES

- Clear to slightly translucent crosslinked silicone-organic elastomer gel delivered in a **non-volatile** organic carrier fluid
- Compatible with a wide range of organic ingredients

BENEFITS

- Provides dry smoothness and a silky, lubricious skin feel
- Improved organic compatibility versus traditional silicone elastomer gels
- Ability to create clear systems with organic components
- Enhances aesthetics of anhydrous and water-based formulations
- Provides thickening benefits in alcohol-based systems
- Cold processing

COMPOSITION

- Approximately 12% Dimethicone/Bis-Isobutyl PPG-20 Crosspolymer in Isodecyl Neopentanoate

INCI Name: Isodecyl Neopentanoate (and) Dimethicone/Bis Isobutyl PPG-20 Crosspolymer

APPLICATIONS

- Imparts luxurious, silky skin feel
- Delivery aid for lipophilic actives, including vitamins and sunscreens
- Rheology and texture modifier in oil-in-water and water-in-oil emulsions and anhydrous gels
- Can be used in a wide range of personal care products such as skin care, color cosmetics, sun care and hair care

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
Viscosity at 25°C (77°F)	mm ² /s	350,000 – 575,000
Flash Point	°C	90
Appearance		Crystal clear to slightly translucent gel. Light amber color. Free of particulate matter.

DESCRIPTION

Dow Corning® EL-8051 IN Silicone Organic Elastomer Blend is a mixture of high molecular weight polyglycol-modified silicone elastomer in isodecyl neopentanoate.

HOW TO USE

Disperse the oil phase into *Dow Corning* EL-8051 IN Silicone Organic Elastomer Blend using simple mixing. There is no need for post-shearing. This product provides isodecyl neopentanoate which has already been thickened and can provide a novel form of delivery for other formulation components. Thickening of formulations can be achieved using a cold process.

Formulation Tips

Dow Corning EL-8051 IN Silicone Organic 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 an emulsion formulation.
- It may be post-added to emulsions provided the emulsion is viscous enough for the *Dow Corning* EL-8051 IN Silicone Organic Elastomer 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, *Dow Corning* EL-8051 IN Silicone Organic Elastomer Blend may be subjected to heat for a short duration.

Processing

Dow Corning EL-8051 IN Silicone Organic Elastomer 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 *Dow Corning* EL-8051 IN Silicone Organic Elastomer Blend out of a drum.

Pump Recommendation

GRACO BULLDOG® 10:1 Pump with follower plate. For more information, contact GRACO at www.graco.com. Note: GRACO offers various 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 elastomer blend from point A to point B. Pressure drops due to elevation, frictional losses within the piping, fittings, valves, filters, etc., will need to be considered.
 - c. Flow requirements: Will depend on how quickly the user wishes to transfer the silicone organic elastomer blend from a 208 liter (55 gallon) drum into a vessel.
- 2. Material viscosity in cP (mPa·s) at the application temperature**
Dow Corning EL-8051 IN Silicone Organic Elastomer 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 and 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 Corning* for alternatives.

Clean-up

Non-polar organic or silicone solvents are recommended for soaking or cleaning equipment.

HANDLING PRECAUTIONS

The user should incorporate proper handling and processing procedures to avoid flame and ignition sources. Product safety information required for safe use is not included. Before handling, read product safety data sheet and container labels for safe use, physical and health hazard information. The material safety data sheet is available on the *Dow Corning* website www.dowcorning.com. You can also obtain a copy from your local *Dow Corning* sales representative or distributor or by calling your local *Dow Corning* global connection.

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

This product is available in 15 kg pails and 165 kg drums.

Samples are available in 0.3 kg tubs.

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 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.

**DOW CORNING SPECIFICALLY
DISCLAIMS ANY OTHER
EXPRESS OR IMPLIED
WARRANTY OF FITNESS FOR A
PARTICULAR PURPOSE OR
MERCHANTABILITY.**

**DOW CORNING DISCLAIMS
LIABILITY FOR ANY
INCIDENTAL OR
CONSEQUENTIAL DAMAGES.**

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Table 1: Compatibility with Common Cosmetic Ingredients at Several Ratios

Cosmetic Ingredients (INCI)	Dow Corning® EL-8050 ID Silicone Organic Elastomer Blend			Dow Corning® EL-8051 IN Silicone Organic Elastomer Blend			Dow Corning® 9045 Silicone Elastomer Blend		
	10%	25%	50%	10%	25%	50%	10%	25%	50%
ESTERS:									
C12-15 Alkyl Benzoate	H	H	H	C	H	H	C	O	O
Caprylic/Capric Triglyceride	C	C	H	C	H	H	C	O	NC
Diisopropyl Adipate	C	H	NC	C	C	NC	H	H	NC
Isopropyl Myristate	C	C	NC	C	H	NC	C	NC	NC
Octylpalmitate	C	C	NC	C	NC	NC	H	NC	NC
Isodecyl Neopentanoate	C	C	NC	C	C	NC	O	O	O
FATTY ALCOHOLS/ACIDS:									
Lauryl Alcohol	C	C	NC	C	H	NC	C	O	NC
Octyldodecanol	C	H	NC	C	NC	NC	C	NC	NC
Oleyl Alcohol	C	H	NC	C	NC	NC	O	NC	NC
HYDROCARBONS:									
Isododecane	C	C	NC	C	C	NC	H	H	NC
Isohexadecane	C	C	NC	C	C	NC	H	H	NC
Isopar L	C	C	NC	C	C	NC	H	H	NC
Mineral Oil	C	NC	NC	C	NC	NC	H	H	NC
Polydecene	NC	NC	NC	NC	NC	NC	O	NC	NC
HYDROPHILICS:									
Water	NC	NC	NC	NC	NC	NC	NC	NC	NC
Ethanol	C	C	NC	C	H	NC	H	NC	NC
Propylene Glycol	H	NC	NC	H	NC	NC	NC	NC	NC
SUNSCREEN ACTIVES:									
Ethylhexyl Methoxycinnamate	C	C	O	C	H	O	H	NC	NC
Ethylhexyl Salicylate	C	C	NC	C	H	NC	H	H	NC
Homosalate	C	C	NC	C	H	NC	H	O	NC
VEGETABLE OILS:									
Almond Oil	C	NC	NC	H	NC	NC	O	NC	NC
Avocado Oil	C	NC	NC	H	NC	NC	O	NC	NC
Castor Oil	O	NC	NC	O	O	NC	O	NC	NC
Jojoba Oil	C	NC	NC	H	NC	NC	H	NC	NC
Sesame Oil	C	H	NC	H	NC	NC	O	O	NC
Sunflower Oil	C	NC	NC	H	NC	NC	O	NC	NC
XIAMETER® MATERIALS:									
PMX-200 Silicone Fluid, 1.5 cSt	C	H	NC	C	C	NC	H	H	NC
PMX-200 Silicone Fluid, 100 cSt	NC	NC	NC	H	NC	NC	H	H	NC
PMX-0245 Cyclopentasiloxane	C	C	NC	C	C	NC	H	H	NC
Dow Corning® MATERIALS:									
1501 Fluid	H	H	H	H	H	H	H	H	H
1503 Fluid	H	H	H	H	H	H	H	H	H
2502 Cosmetic Fluid	H	NC	NC	H	NC	NC	O	NC	NC
2503 Cosmetic Wax	H	NC	NC	H	O	O	O	O	O
556 Cosmetic Grade Fluid	C	C	NC	C	H	NC	H	H	O
593 Fluid	H	NC	C	H	NC	NC	H	H	H
5562 Carbinol Fluid	C	H	NC	C	C	NC	H	C	H
FZ-3196	C	C	NC	C	C	NC	H	H	NC

C = Clear; H = Hazy; O = Cloudy to Opaque; NC = Not Compatible