



Technical Data Sheet

DOWSIL™ ES-5300 Formulation Aid

FEATURES & BENEFITS

- Silicone W/O and W/Si emulsifier
- Low odor
- Non-diluted emulsifier
- Low viscosity
- Oil-phase flexibility
- Provide stable cream and milky emulsions by low addition level and common mixers
- Light sensory
- Typical applications
 - Pigment and fine particle dispersant
 - Liquid & cream foundation
 - Sun care
 - Skin cream and milky lotion

COMPOSITION

- Silicone polyether

INCI Name: Lauryl PEG-10 Tris(trimethylsiloxy)silylethyl Dimethicone

APPLICATIONS

- Silicone emulsifier designed to create low viscosity Water-in-Oil emulsions.
- Oil phase flexibility for the emulsification of silicone and organic oils and their mixture.
- Can be used in wide range of personal care applications such as:
 - Color cosmetics (example: Liquid & Cream foundation)
 - Skin care
 - Sun care
 - Hair care
 - Antiperspirants and Deodorants

TYPICAL PROPERTIES

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

Test ¹	Property	Unit	Result
	Appearance		Light brown liquid
0004 A	Viscosity	mm ² /s	1,800
0002 A	Refractive Index, 25°C		1.43
	Calculated HLB ²		3

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

²Calculated HLB = Polyoxyethylene wt% / 5.

DESCRIPTION

DOWSIL™ ES-5300 Formulation Aid is a non-diluted and low viscosity silicone surfactant.

Designed to produce stable water-in-silicone emulsions and water-in-oil emulsions with light sensory.

DOWSIL ES-5300 Formulation Aid improves the dispersibility of pigment and fine particle in silicone fluid and organic oil.

HOW TO USE

The recommended addition level of DOWSIL ES-5300 Formulation Aid is 2% for emulsions with a high level of water phase. Decreasing the water phase level will require increasing the emulsifier addition level. Thanks to its broad compatibility with silicone and organic oils and low viscosity, DOWSIL ES 5300 Formulation Aid is easily dispersed in the oil phase prior the addition of the water phase.

Water phase should be added slowly into the oil phase containing DOWSIL ES-5300 Formulation Aid using a variety of common mixers.

High shear mixing at the end of the emulsification process helps to decrease the particle size.

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 WWW.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 in the unopened original containers, this product has a usable life of 540 days from the date of production.

When stored below 10°C for more than a week, the material might develop a slight haze. If stored for longer (typically more than 4 months) at that temperature, an additional slight separation could also be observed. By heating the material to 40°C and applying a gentle agitation, the material will return to its original transparent appearance.

PACKAGING INFORMATION

18 kg Pails
500 g Sample

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 or consult your local Dow 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.

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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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DOWSIL™ ES-5300 Formulation Aid

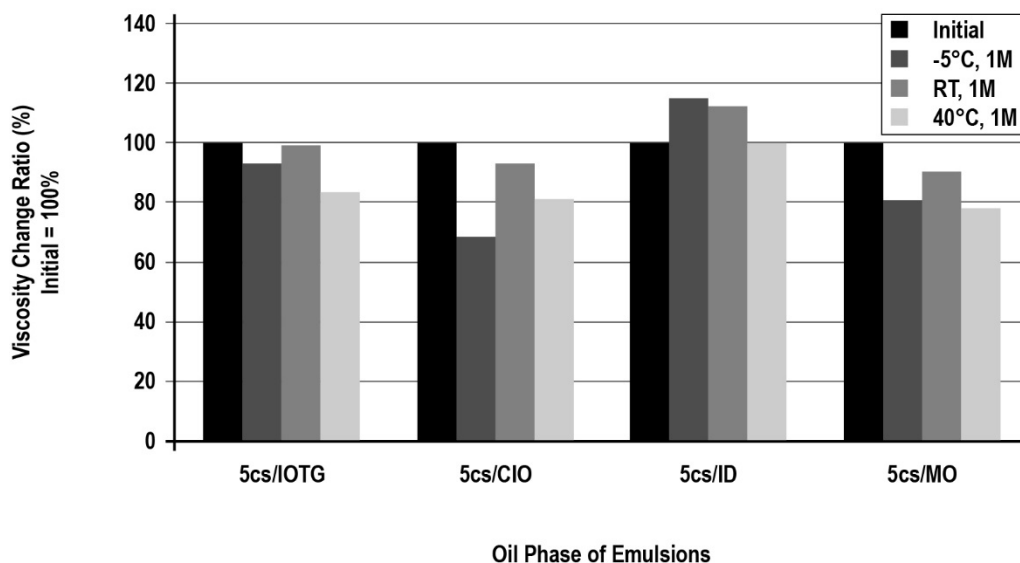
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Table 1: Compatibility of DOWSIL ES-5300 Formulation Aid with various cosmetic ingredients.

The ratio of DOWSIL ES-5300 Formulation Aid:Oil = 1:4

Ingredient (INCI)	Trade Name of Dow Corning	Compatibility
Cyclopentasiloxane	XIAMETER™ PMX-0245 Cyclopentasiloxane	Clear
Dimethicone	XIAMETER™ PMX-200 Silicone Fluid 2 cSt	Clear
Dimethicone	XIAMETER™ PMX-200 Silicone Fluid 5 cSt	Not compatible
CaprylylMethicone	DOWSIL™ FZ-3196 Fluid	Clear
PhenylTrimethicone	DOWSIL™ 556 Cosmetic Grade Fluid	Clear
Isotridecyl Isononanoate	-	Clear
Ethylhexyl Palmitate	-	Clear
Ethylhexyl Methoxycinnamate	-	Opaque
Isododecane	-	Clear
Sunflower oil	-	Hazy

Graph 1: Viscosity of W/Si+O emulsions made by DOWSIL ES-5300 Formulation Aid.



The viscosity was checked just after emulsification and one month stored at 40 degree C, room temperature and -5 degree C.
 Ratio of water/dimethicone (5cs)/organic oil / DOWSIL ES-5300 Formulation Aid = 80/8/10/2.
 Abbreviations: IOTG = Triethylhexanoin; CIO = Cethyl Ethylhexanoate; ID = Isododecane; MO = Mineral oil.

DOWSIL ES-5300 Formulation Aid keeps stability of various oil phase emulsions under different storage conditions.

