



## DOWSIL™ BY 11-030 Emulsifier Gelling Agent

### **FEATURES & BENEFITS**

- Preparation of clear silicone gels, water-in-oil, and water-in-silicone emulsions
- Novel delivery form for non-polar and polar ingredients
- Water-in-silicone surfactant with HLB of 3.5
- Clear silicone gel capability
- Clear, low odor product
- Soft to hard silicone gels
- Anhydrous pigmented systems
- Thickening
- Low or high water content (up to 85%)

INCI name: Cyclopentasiloxane and PEG/PPG-19/19 Dimethicone  
Tocopherol is contained at 200 ppm as an antioxidant

### **APPLICATIONS**

- Silicone emulsifier designed to prepare clear, low water content, or anhydrous gels of low viscosity silicone fluids.
- Novel delivery form for both non-polar and polar ingredients.
- Emulsifier for water-in-oil and water-in-silicone emulsions.
- Can be used in a wide range of Personal Care applications such as:
  - Skin care
  - Sun care
  - Color cosmetics

### **TYPICAL PROPERTIES**

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

CTM*	Property	Unit	Result
0176	Appearance		Clear viscous liquid
1100G	Specific gravity		0.98
0208 BIC	Non-volatile content	%	50
1100N	Viscosity at 25°C	mPa.s	15,000–60,000
1100L	Flash point - closed cup	°C	77.5
	Refractive index at 25°C		1.41

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

### **DESCRIPTION**

DOWSIL™ BY 11-030 Emulsifier Gelling Agent is a crystal clear 50% dispersion of a high molecular weight silicone surfactant (polyoxyethylene/polyoxypropylene copolymer) in XIAMETER™ PMX-0245 Cyclopentasiloxane.

It is designed to prepare clear gels of low viscosity silicone fluids such as XIAMETER PMX-0245 Cyclopentasiloxane, XIAMETER™ PMX-0246 Cyclohexasiloxane or

XIAMETER™ PMX-200 Silicone Fluid, 1 cSt to 6 cSt. These gels can incorporate up to 20% of oil soluble ingredients such as mineral oil, esters and organic sunscreens.

DOWSIL BY 11-030 Emulsifier Gelling Agent can also be used to prepare water-in-oil or water-in-silicone emulsion systems to deliver both non-polar and polar ingredients resulting in a thicker cream compared to existing water-in-silicone emulsifiers.

## HOW TO USE

Stable water-in-silicone emulsions can be prepared by slowly adding water to the oil phase using a variety of common mixing devices. The oil phase should be prepared first by mixing DOWSIL BY 11-030 Emulsifier Gelling Agent with the selected low viscosity silicone fluid.

Clear gels of low viscosity silicone fluids can be made by adding small amounts of water. The addition of ethanol also improves clarity and storage stability of the gel.

## 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](http://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 (104°F) in the original unopened containers, this product has a usable life of 18 months from the date of production.

## PACKAGING INFORMATION

This product is available in 16 kg pails and 180 kg drums.

Samples are available in 1 kg 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 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.

## 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'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.

**TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.**

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

[www.consumer.dow.com](http://www.consumer.dow.com)

**Table 1: Formulation example: Clear Gel with Cyclopentasiloxane (D5)**

**Formulation:**

**Phase A**

DOWSIL BY 11-030 Emulsifier Gelling agent	20%
XIAMETER PMX-0245 Cyclopentasiloxane	78%

**Phase B**

Deionized Water	2%
-----------------	----

Procedure:

1. Mix Phase A ingredients under sufficient agitation to obtain a homogeneous mixture.
2. Add Phase B to Phase A very slowly with turbulent mixing at approximately 1,300 rpm.
3. Continue mixing for 10–30 minutes at the same speed.

Note:

- Water content is variable between 1 and 10% in the formulation.
- Ethanol can be added around 8 to 10% in place of XIAMETER PMX-0245 Cyclopentasiloxane to help improve clarity and storage stability of the clear gel.

**Table 2: Formulation example: W/Si Emulsion**

**Formulation**

**Phase A**

DOWSIL BY 11-030 Emulsifier Gelling Agent	8%
XIAMETER PMX-0245 Cyclopentasiloxane	30–69%

**Phase B**

Deionized Waters	62–23%
------------------	--------

Procedure:

1. Mix Phase A ingredients under sufficient agitation to obtain a homogenous mixture.
2. Add Phase B to Phase A slowly with a homo-disperser at 2,000 rpm for 2 minutes.
3. Continue mixing for 5 minutes at the same speed.

Note:

- Water and XIAMETER PMX-0245 Cyclopentasiloxane content is variable between 30–69% and 62–23% in the formulation.

**Figure 1: Three component diagram**

