



Technical Data Sheet

DOWSIL™ FZ-2233

FEATURES & BENEFITS

- ABn silicone polyether block copolymer
- Non-diluted material
- Silicone emulsifier
- Formulation flexibility with a broad range of silicone and organic oil phases
- Ease of use
- Cold or hot process
- Tolerate high level of AP salt

INCI Name: Bis-Isobutyl PEG/PPG-10/7/Dimethicone Copolymer Silicone Polyether Block Copolymer (ABn) for Personal Care Application

APPLICATIONS

- Silicone emulsifier for highly stable water-in-silicone and water-in-silicone and organic oil systems.
- Make stable w/s emulsions containing a high level of antiperspirant (AP) salts into the water phase.
- Can be formulated into clear shampoo.
- Can be used in a wide range of Personal Care applications such as:
 - Skin care
 - Sun care
 - Color cosmetics
 - Hair care
 - Antiperspirant/deodorant

TYPICAL PROPERTIES

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

Test ¹	Property	Unit	Result
0176	Appearance		Clear to slightly yellow liquid
0001	Specific gravity		0.99
0208	Non-volatile content	%	97
0004	Viscosity at 25°C (77°F)	mm ² /s	2,500–7,500
1100	Flash point - closed cup	°C	117.5
0002	Refractive index at 25°C (77°F)		1.42
	Calculated HLB ²		2.5

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

²Calculated HLB = Polyoxyethylene wt% ÷ 5.

DESCRIPTION

DOWSIL™ FZ-2233 is designed to produce water-in-silicone and water-in-silicone and oil emulsions with a creamy and rich appearance but leaving a light, non-greasy after feel on the skin. The addition level can be as low as 1% leaving a lot of flexibility for the oil phase

composition. The emulsions also have a small particle size resulting in highly stable emulsions at elevated temperatures but also through several freeze thaw cycles. It also allows the incorporation into the water phase of humectants and high level of AP salts.

In addition to its emulsifying properties, DOWSIL FZ-2233 also helps to disperse pigments such as mica and zinc oxide into silicone carriers. It can also be formulated into clear shampoo and shower gels.

HOW TO USE

DOWSIL FZ-2233 should be added into the oil phase of the formulation as with any other oil phase ingredients. Increasing the temperature will only impact slightly the viscosity of this polymer.

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 (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 17 kg pails.

Samples are available in 100 ml 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 or consult your local Dow representative.

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DOWSIL™ FZ-2233

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Table 1: Compatibilities

DOWSIL FZ-2223:Oil ratio	1:9	5:5	9:1
PPG-3 Myristyl ether	Cloudy	C	C
C12-C15 Alkyl benzoate	C	C	C
Caprylic/capric triglyceride	C	C	C
Isododecane	C	C	C
Water	NC	NC	NC
Glycerin	NC	NC	NC

C: Compatible. NC: Non compatible.

Table 2: Facial Skin Cream

Ingredients/INCI	Trade name	Weight%
Phase A		
Bis-Isobutyl PEG/PPG-10/7/Dimethicone Copolymer	DOWSIL FZ-2233	2.0
Trisiloxane (and) Dimethicone	XIAMETER™ PMX-1184 Silicone Fluid	12.5
Cyclopentasiloxane (and) cyclohexasiloxane	XIAMETER™ PMX-0345 Cyclosiloxane Blend	3.0
Bis-hydroxyethoxypropyl dimethicone	DOWSIL™ 5562 Carbinol Fluid	2.0
Cetyl 2-ethyl hexanoate		3.0
Camelina sativa seed oil		5.0
PPG 3 myristyl ether	Promyristyl PM-3/Croda	0.5
Phase B		
Sodium chloride		1.0
Butylene glycol		4.0
Water		67.0
Procedure		
<ol style="list-style-type: none"> 1. Mix phase A ingredients together. 2. Mix phase B ingredients together. 3. Add slowly phase B into phase A using a high speed mixer, (around 1000 rpm). 4. When all of phase B is added, increase the speed to 2000 rpm and stir for another 10 minutes. 		

