DOWSIL™ 5225C Formulation Aid

INCI Name: Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone

Description

DOWSIL™ 5225C Formulation Aid is a 12.5% dispersion of high molecular weight silicone polyether in decamethylcyclopentasiloxane. It was designed specifically for preparation of water-in-volatile silicone formulations. It can provide delivery systems for both nonpolar and polar ingredients: nonpolar ingredients are dissolved in the external silicone phase and polar ingredients in the internal aqueous phase.

Uses / Applications

- Color cosmetics
- Antiperspirants
- Hair care
- Sun care
- Deodorants
- Face care
- Skin and body care

Benefits

- Provides an excellent delivery system for emollients, moisturizers, sunscreens, antiperspirant actives and pigments
- Gives stable water-in-silicone formulations
- Allows formulation flexibility
- Clear water-in-oil emulsion technology possible

Physical Properties

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

Reference	Property	Result	Unit	Comments
	Appearance	Translucent to hazy, slightly gray, liquid. Slight sediment possible		
	Viscosity @ 25°C (77°F)	400-1,000	cSt	
	Specific gravity @ 25°C (77°F)	0.956		
	Refractive index	1.399		
	Flash point (closed)	>80	°C	
	Cyclotetrasiloxane (D4) content	< 0.1	%	

Processing and Application Guidelines

Water-in-silicone emulsions can be easily prepared by slow addition of the aqueous phase to the oil phase using a variety of common mixing devices. The stability of the emulsions increases with the amount of shear used to form them. Since the aqueous phase is the internal phase of these emulsions, increasing the proportion of water will increase the viscosity of a given formulation.

Formulation Tips

1. Stir DOWSIL™ 5225C Formulation Aid thoroughly before use.
2. Add the water phase slowly to the oil phase using a high speed mixer.
3. Pass emulsion through a homogenizer (Silverson, Colloid Mill, Ultra Turrax) to stabilize the product further.
4. Electrolytes, preferably NaCl at a level of 1 to 2%, should be added to the water phase to ensure long term stability.
5. The emulsion can be made at ambient temperature if the formulation is free from solid ingredients.

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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE

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, dow.com, or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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