



## High Water Sunscreen Lotion with Deposilk™ Q1 Polymer Formulation No. U019

The High Water Sunscreen Lotion with Deposilk™ Q1 Polymer provides formulators with an illustration of Deposilk Q1 polymer's ability to deliver a 70%+ water sunscreen formulation that provides feel and performance benefits. In this formulation, Deposilk Q1 polymer provides cationic-based skin conditioning benefits, a silky feel attribute that complements other sensory agents, improved deposition of sunscreen filters, and improved sweat and rub-off resistance through its flexible and effective barrier property. As this formulation suggests, Deposilk Q1 polymer is compatible and easy to formulate with anionic thickener carbomer.

The simplicity of this formulation provides formulators with a starting point from which to craft simple but effective sunscreen products delivering unique value propositions. Moreover, as a high-water platform, this formulations can enable formulators to target new and different consumer groups with superior cost-performance propositions.

### Typical Formulation Properties

(note to be used as specifications)

pH	6.3
Viscosity (cPs)	26,000 – 27,500

### Procedure

1. Add water to vessel A and begin mixing
2. Add Carbomer to vessel A and thoroughly disperse
3. Neutralize with TEA
4. Add remaining phase A components in order listed, while mixing
5. Add Phase B components together in a separate vessel and being mixing with heat to 85°C
6. Cool Phase B to 55°C and add to Phase A
7. Mix until room temperature has been reached
8. Add Phase C DMDM Hydantoin once formulation reaches 35°C

INCI Name Trade Name, Supplier	% W/W	Function
<b>Phase A</b>		
Aqua Water	71.23	Diluent
Carbomer Carbopol® Ultrez 10 Polymer, Lubrizonl	0.50	Thickener
Triethanolamine Triethanolamine	0.75	Neutralizing Agent
Phenyl Trimethicone Dow Corning® 556 Cosmetic Fluid, Dow Corning	0.50	Emollient
Panthenol Panthenol	0.50	Humectant
Cyclopentasiloxane (and) Dimethicone Dow Corning® 1411 Fluid, Dow Corning	1.00	Emollient
<b>Deposilk Q1 Polymer</b> <b>Air Products</b>	<b>1.52</b>	<b>Deposition and Sensory Agent</b>
<b>Phase B</b>		
Ethylhexyl Salicylate Parsol® EHS, DSM	5.0	Sun Screen Filter
Homosalate Parsol® HMS, DSM	10.0	Sun Screen Filter
Butyl Methoxydibenzolymethane ("Avobenzene") Parsol® 1789, DSM	3.0	Sun Screen Filter
Benzophenone-3 ("Oxybenzone") Uvinul® M 40, BASF	6.0	Sun Screen Filter
<b>Phase C</b>		
DMDM Hydantoin (and) Iodopropynyl Butylcarbamate Glydant® Plus Liquid, Lonza	0.50	Preservative



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### For Samples or More Information

If you would like additional information or technical assistance in preparing specific formulations, write or call Air Products and Chemicals, Inc.

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Air Products and Chemicals, Inc. • U.S. and Canada 1-800-345-3148 • Europe +31-30-285-7100 • Global +1-610-481-6799  
Email: [prodinfo@airproducts.com](mailto:prodinfo@airproducts.com)

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