



Technical Data Sheet

DOWSIL™ 74 Additive

Polymeric silicone foam control agent

Features & Benefits

- Effective foam control for waterborne systems
- Performs at low concentrations
- No hydrophobic particles
- Stable under high shear mixing
- Readily incorporates into waterborne systems
- Complies with U.S. FDA regulations CFR 176.210
- Compliant with Swiss Ordinance 817.023.21 of 23 November 2005 and BfR XV for materials coming into contact with foodstuff

Composition

- Solventless
- 100% active

Applications

- Effective foam control in a variety of waterborne coatings and inks. Reduced air entrainment during manufacture, handling and application of the coating.
- Particularly for waterborne automotive base coat applications balancing effective foam control and good surface appearance.

Typical Properties

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

Test ¹	Property	Unit	Result
CTM 1100 A	Appearance		Clear colorless to tan liquid
	Appearance in Water		Hazy emulsion
CTM 1100 G	Specific Gravity at 25°C (77°F)		1.0
CTM 1100 N	Viscosity at 25°C (77°F)	m Pas	750
CTM 1100 L	Flash Point, closed cup	°C (°F)	> 100 (> 212)
CTM 0002 A	Refractive Index		1.435–1.445
	Actives Content	%	100

1. CTM: Corporate Test Method. Copies of CTMs are available upon request.

Typical Properties (Cont.)

Test	Property	Unit	Result
	Surface Tension, 0.1%	MN/m	26.9 (aqueous)
	Cloud Point	°C (°F)	< 0 (< 32)
	Hydrophilicity, HLB Range		1.90

Description DOWSIL™ 74 Additive shows good compatibility in waterborne coating and ink systems and has a low tendency to cause surface defects. It is particularly suited for applications where high shear stability and ease of incorporation are needed. DOWSIL 74 Additive does not contain hydrophobic particles that can settle out of low viscosity systems, create surface defects or build up on application equipment.

To further assist in assessing compatibility within a formulation, solubility data for some typical solvents is shown in Table 1.

Table 1: DOWSIL™ 74 Additive

Solubility in selected solvents at 0.1% and 1% addition levels.

D = Disperses, S = Soluble, H = Hazy appearance, SH = Slightly Hazy appearance, C = Clear appearance; 1 or 2 indicates number of phases or layers visible.

Weight Percent DOWSIL 74 Additive in Solvent	Water	Isopropanol	Acetone	Hexane	Propylene Glycol
1.00%	D, H, 2	S, C, 1	S, C, 1	S, C, 1	S, C, 1
0.10%	D, SH, 1	S, C, 1	S, C, 1	S, C, 1	S, C, 1

How To Use The recommended addition level of DOWSIL 74 Additive is 0.1 to 1% as supplied, based on total formulation. DOWSIL 74 Additive can be added at any point of the manufacturing process from the pigment grind to letdown stages. Addition of DOWSIL 74 Additive early in the manufacturing process is recommended to provide maximum processing efficiency and avoid air entrainment during mixing.

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 between 0 and 40°C (32 and 104°F) in the original, unopened container DOWSIL 74 Additive has a usable life of 24 months from the date of production.

UNRESTRICTED – May be shared with anyone

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DOWSIL™ 74 Additive

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Packaging Information

DOWSIL 74 Additive is available in 18 kg (39.7 lb) pails and 200 kg (441 lb) drums.

Samples are available in 120 mL (4 fl oz) quantities.

Limitations

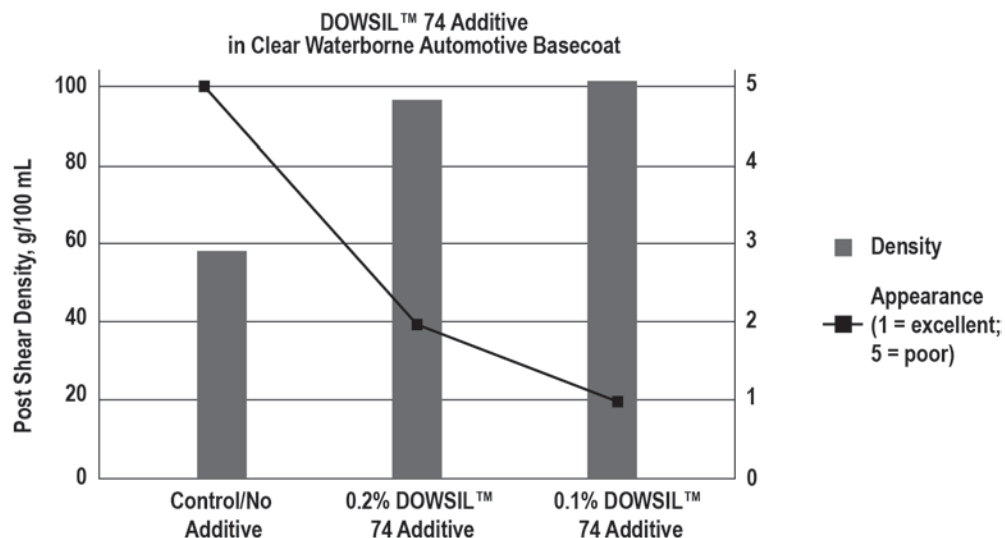
This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

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.

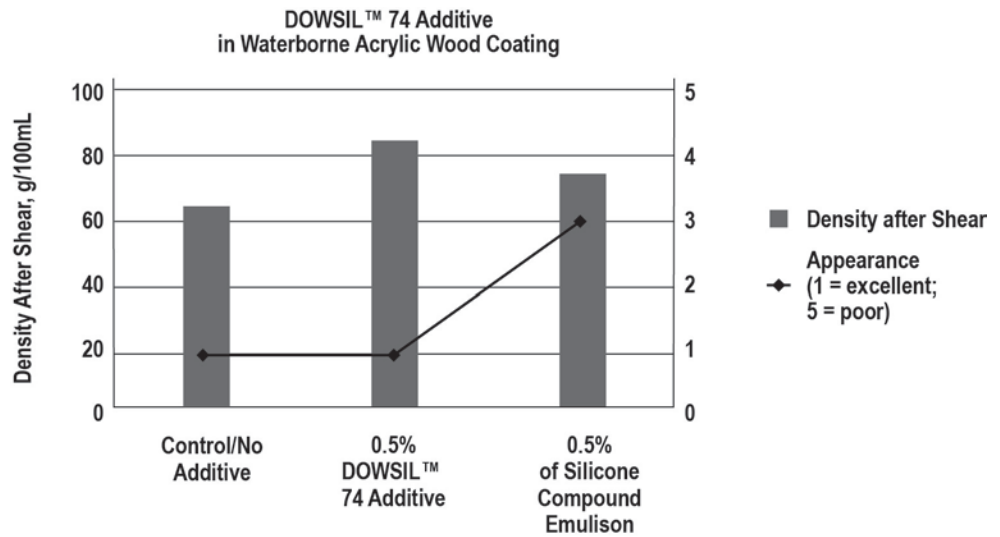
For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

Figure 1:



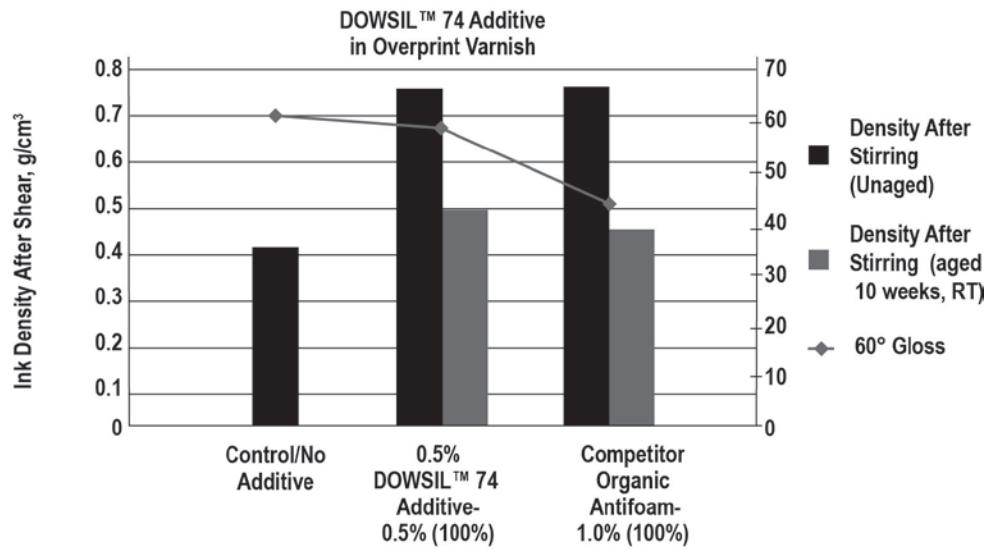
DOWSIL 74 Additive at 0.1 and 0.2% use levels in a clear waterborne automotive basecoat. Results are shown after shearing 1 minute at 2800 rpm using dissolver blade. Appearance was assessed for spray applied coatings with the following rating: 1 = excellent, very few pinholes; 2 = good, few pinholes; 5 = poor; many pinholes and larger craters.

Figure 2:



DOWSIL 74 Additive at 0.5 weight percent in waterborne acrylic wood coating. Density in g/100 mL reported after shearing 1 minute at 2800 rpm using dissolver blade. Appearance assessed for 50 micron film on cardboard substrate where 1 = excellent and 5 = poor. Results also are shown for polydimethylsiloxane compound emulsion antifoam at 0.5% use level in the same wood coating system.

Figure 3:



DOWSIL 74 Additive is proven to effectively resist foam with only a minimal reduction in the gloss level seen in an overprint varnish based on Joncryl® 77 acrylic resin. With the nonsilicone foam control agent, a 1.0% addition was required to achieve the same foam control performance while giving a large reduction in the gloss level.

Joncryl is a registered trademark of BASF Corporation.

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