Technical Data Sheet

DOWSIL™ 71 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

Composition

- Solventless
- 100% active

Applications

- Effective foam control in a variety of waterborne coatings. Reduced air entrainment during manufacture, handling and application of the coating.
- Particularly for waterborne inks balancing effective foam control and good surface appearance.
- May be used as an antifoam in inks and overprint varnishes applied to either the food-contact or non-food-contact side of paper, paperboard, films and foils.

Visit dow.com/CustomerSupport to obtain food contact regulatory information, including FDA, EU, Swiss Ordinance and German BfR clearance.

Typical Properties

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

CTM[1]	Property	Unit	Result
1100 A	Appearance		Clear colorless to tan hazy liquid
	Appearance in Water		Hazy emulsion
1100 G	Specific Gravity at 25°C (77°F)		1.0
1100 N	Viscosity at 25°C (77°F)	m Pas	500
1100 L	Flash Point, Closed Cup	°C (°F)	> 100 (> 212)
	Actives Content	%	100
	Surface Tension, 0.1%	MN/m	26.4 (aqueous)
	Cloud Point	°C (°F)	< 0 (< 32)
	Hydrophilicity, HLB Range		1.31

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

Form No. 26-1162-01-0220 S2D

Description

DOWSIL™ 71 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™ 71 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™ 71 Additive solubility in selected solvents at 0.1% and 1% addition levels.
I = Insoluble, 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™ 71 Additive in Solvent	Water	Isopropanol	Acetone	Hexane	Propylene Glycol
1.00%	I, 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™ 71 Additive is 0.05 to 1% as supplied, based on total formulation. DOWSIL™ 71 Additive can be added at any point of the manufacturing process from the pigment grind to letdown stages. Addition of DOWSIL™ 71 Additive early in the manufacturing process is recommended to provide maximum processing efficiency and avoid air entrainment during mixing. DOWSIL™ 71 Additive can be added directly or prediluted with alcohols or polyglycols.

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.

Usable Life and Storage

When stored between 0 and 40°C (32 and 104°F) in the original, unopened container, DOWSIL™ 71 Additive has a usable life of 24 months from the date of production.

Packaging Information

DOWSIL™ 71 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, 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.

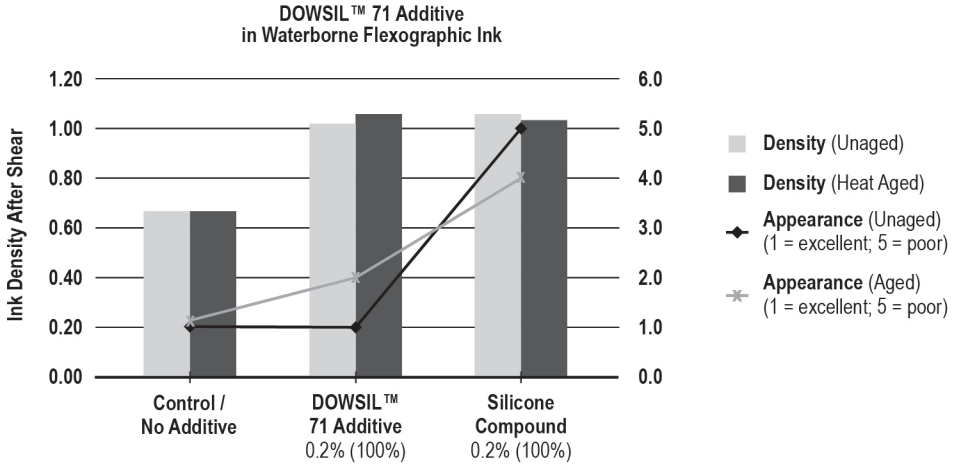

Figure 1: DOWSIL™ 71 Additive at 0.2 weight percent (100% actives) in waterborne flexographic ink. Density reported after shearing 10 minutes at 3000 rpm using dissolver blade for unaged and heat aged (2 days/40°C [104°F]) inks. Appearance assessed for film on cardboard substrate where 1 = excellent and 5 = poor. Results also are shown for a silicone compound at 0.2% (100% actives) in the same ink system.

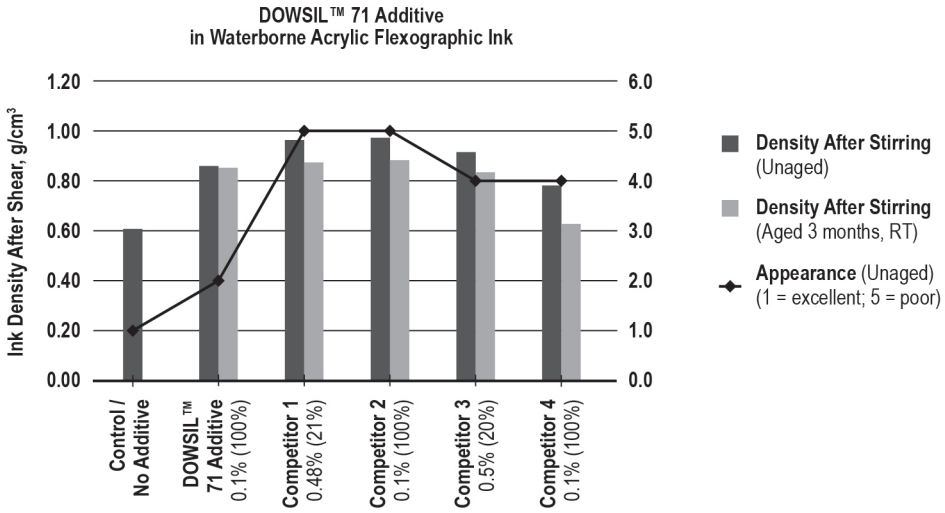

Figure 2: DOWSIL™ 71 Additive is proven to effectively resist foam at lower levels (0.1 weight percent) while maintaining an excellent surface appearance in a second waterborne acrylic flexographic ink. Density reported after shearing 10 minutes at 2800 rpm using dissolver blade for unaged and aged (3 months/RT) inks. Appearance assessed on cardboard substrate where 1 = excellent and 5 = poor. Results are shown versus competitor silicone emulsions and compounds in the same ink system.

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