



Consumer Solutions

DOWSIL™ Superwetter Family



DOWSIL™ 67 Additive, DOWSIL™ 500W Additive,
DOWSIL™ 501W Additive and DOWSIL™ 502W Additive



Paint and ink formulators are faced with environmental issues and the importance of sustainable formulations. These challenges drive formulators to increasingly use waterborne and UV binder systems. Both of these technologies bring with them the challenge of high surface energy and difficulties in wetting substrates. In parallel, low surface-energy plastic substrates are increasingly used and bring challenges with substrate wetting.

With the increased use of wood substrates, surface wetting also is a hot topic in the wood industry. Despite advances in coating additive technology, improved wetting agents are still needed. Failure to wet the substrate properly results in defects such as orange peel brush marks. For substrates that are difficult to wet, these defects can affect the final quality of the coating. With its new superwetter family, Dow seeks to make tackling substrate wetting challenges easier for formulators.

Making an Informed Choice of Superwetter

Dow understands that every formulation is different. By providing more information about structure, end capping and hydrophilicity/HLB, Dow seeks to improve the quality of wetting additive choices. All four products in this DOWSIL™ superwetter family are 100% silicone polyether copolymers and are characterized by being usable in both waterborne and UV coatings formulations, offering recoatability and a high level of consistency across different types of binders. In addition:

- DOWSIL™ 500W Additive has wide pH stability, particularly at higher pH, thus allowing formulators to use it in a wide pH range.
- DOWSIL™ 502W Additive provides consistently low dynamic surface tensions under shear, which could provide benefits in high-speed coatings or printing and spray coatings.

Advantages of DOWSIL™ Superwetters

- Family approach to enable paint or ink formulators to choose exactly the right product for their application
- Can be used in waterborne and radiation cured paints, inks and coatings
- Recoatable
- No contribution to VOC
- Improve wetting over a wide range of substrates, including wood, plastics and metal
- Low viscosity and easy to incorporate
- Options available for formulating food packaging inks

Cost-effective, Optimum Performance

Varying in structure, DOWSIL™ superwetter additives allow for different reactivity and compatibility in different coatings and inks formulations, enabling chemists to choose exactly the right additive for their application.

Providing a consistent wetting performance across a wide range of coatings formulations and over a wide range of substrates, this also allows formulators to minimize the number of additives required in test programs and in raw material portfolios.

Use these additives at low addition levels to achieve excellent wetting. These superwetters have little or no influence on slip and are therefore ideal for applications such as wood floor coatings.

Performance with Regulatory Compliance

One hundred percent silicone polyether copolymers and solvent-free technology mean no contribution to VOC when using these additives.

Both DOWSIL™ 67 Additive and DOWSIL™ 501W Additive are listed in the Swiss ordinance RS 817.023.21.

More Than Additives

Our innovative, silicon-based enabling technologies can help you infuse your products with high-value performance attributes that will give you a competitive advantage in the marketplace. As a leader and innovator with a long history of success in the industry, Dow's performance-enhancing coating technology platforms are well-aligned to

Table 1: Product Profile

Products	Active, %	Viscosity, cst	HLB-EO	End Cap	Surface Tension, aqueous 0.1% solution
DOWSIL™ 67 Additive	100	31-51	11.5	OH	21.1
DOWSIL™ 500W Additive	100	25.5-29.5	10.7	OAc	22
DOWSIL™ 501W Additive	100	10-30	10.6	OMe	20.5
DOWSIL™ 502W Additive	100	49-75	13.2	OH	22.4

Improved Wetting in Coatings, Paints, Inks and Overprint Varnishes

Table 2: Properties of DOWSIL™ Additives

Test	DOWSIL™ 67 Additive, DOWSIL™ 500W Additive DOWSIL™ 501W Additive, DOWSIL™ 502W Additive
Appearance	Clear to slightly hazy colorless to amber liquids
	100% silicone polyether copolymers
VOC, g/l	0
	Solvent-free
	BTX-free
	DOWSIL™ 500W Additive is stable even at high pH

the needs of the increasingly competitive global coatings market. Consider what adding the following enabling technologies could do to improve your products' performance and support your business goals:

- Gloss Enhancement
- Feel and touch
- Mar resistance and slip
- Heat and temperature resistance
- Impact deadening
- Water resistance
- UV resistance
- Antifouling

For More Information

Visit [consumer.dow.com](https://www.consumer.dow.com) to learn how Dow's innovative coatings technology platforms can help you power up your product line.

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