TAMOL™ 851 Dispersant

Description

TAMOL™ 851 Dispersant is a versatile polyacid dispersant that offers outstanding performance in a wide range of latex paint formulations.

TAMOL 851 Dispersant is supplied at 30% solids in water and is free of both formaldehyde preservatives and ammonia. It is recommended for flat through semigloss acrylic, styrene/acrylic, and vinyl acrylic formulations. TAMOL 851 is specifically designed to offer excellent stability in those formulations that contain zinc oxide.

TAMOL 851 Dispersant is highly compatible with anionic HASE associative rheology modifiers. It offers excellent performance for viscosity stability and color acceptance with ACRYSOL™ DR series of rheology modifier products.

Dispersing Efficiency

TAMOL™ 851 Dispersant should be tested at 0.5% to 1.0% active ingredient based on total pigment weight. It is important to determine the proper level for the finished paint formulation. If a low level is used, the dispersion may be incomplete providing an inadequate grind that will not have the required gloss, hiding, or stability. High levels of dispersant may lead to increased water sensitivity.

Features	Benefits
Low cost/High performance	Lower formulated cost
Broad formulating range	Wide versatility. Can be used in flats through high-gloss formulations
Rheology modifier compatibility	Compatibility with anionic HASE type rheology modifiers
Excellent color compatibility	Excellent color acceptance with high reproducibility
Excellent viscosity stability	Excellent heat-age and shelf stability
High gloss potential	High gloss development
Low foam	Easy to process and handle
Zinc oxide dispersant	Excellent heat-age and shelf stability

Typical Physical Properties

(These properties are typical but do not constitute specifications).

Property	Typical Values
Appearance	Pale yellow liquid
Chemical type	Anionic polyelectrolyte
pH	9 to 10.8
Solids, %	30
Brookfield Viscosity, cP as shipped	125 to 325
Specific gravity	1.2
Density, lb/gal	10.0

Reactive Pigment Stability

Table 1 compares the exceptional stabilizing efficiency of TAMOL™ 851 Dispersant to that of two general-purpose dispersants in zinc-oxide containing exterior flat formulations. TAMOL 851 Dispersant shows exceptional reactive pigment stability with a variety of binders, while the other dispersants fail the severe heat stability test across the board.

Heat stability and resulting adhesion performance of an exterior semigloss formulation are shown in Table 2. Although the competitive dispersants pass the heat stability test along with TAMOL 851 Dispersant, performance differences between the dispersants surface in the adhesion test results. Only the paint containing TAMOL 851 Dispersant tests blister-free; the other dispersant systems show severe blistering and loss of adhesion over acrylic chalk.

Table 1 Comparison of Dispersant Stabilizing Efficiency in Exterior Flat Formulations (45 PVC/36 VS) Containing Zinc Oxide

	28 Day Heat Stability Test[1]	
	RHOPLEX™ AC-264 Emulsion	RHOPLEX™ MULTILOBE 200 Emulsion
TAMOL™ 851 Dispersant	P28	P28
General Purpose A	F28	F14
General Purpose B	F28	F14

[1]P = Pass; F = Fail (gelation); Number days at Pass/Fail point.

Table 2 Comparison of Heat Stability and Early Blister Resistance in an Exterior Semigloss Formulation (22.5 PVC/35VS) Containing Zinc Oxide

	28-Day Heat Stability[1]	Early Blister Resistance Over Latex Chalk[2]
TAMOL 851 Dispersant	P28	10
General Purpose A	P28	2D
General Purpose B	P28	4D
General Purpose C	P28	2D

[1]Heat aging—up to 28 days at 140°F.

[2]The early blister resistance test involves applying two coats of the test paint over a chalky latex board with a five-hour room temperature dry between coats. The painted board is dried overnight in a constant temperature room. The next day, the board is placed in a fog box and rated for blistering after five hours of exposure as follows:

Blister Size = ASTM scale of 1 (very big) to 10 (none)
Blister Density (# per unit area) = Few (F), Moderate (M), Moderate/Dense (MD), and Dense (D).

Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

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 Coating Materials Technical Representative for more information.

Chemical Registration

Many countries require the registration of chemicals, either imported or produced locally, prior to their commercial use. Violation of these regulations may lead to substantial penalties imposed upon the user, the importer or manufacturer, and/or cessation of supply. It is in your interests to ensure that all chemicals used by you are registered. Dow does not supply unregistered products unless permitted under limited sampling procedures as a precursor to registration.

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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