



PRIMAL™ WL-51 Emulsion

For Water-borne Coatings on Plastics and General Industrial Finishes

Regional Product Availability

- Asia-Pacific

Description

PRIMAL™ WL-51 Emulsion is a small particle size, hard acrylic-styrene polymer emulsion that facilitates the formulation of high-performance waterborne finishes for coating plastic substrates, such as those used for business machines and office equipment. PRIMAL WL-51 Emulsion is offered for use on the following plastics: Acrylonitrile / butadiene / styrene, polycarbonate, polyphenylene oxide, polyvinyl chloride, acrylic, polystyrene, high-impact polystyrene, polypropylene, and pre-treated thermoplastic polyolefin.

PRIMAL WL-51 Emulsion offers an excellent combination of application, durability, and appearance benefits that make it an excellent choice for demanding business and office applications.

Key Features

- Excellent adhesion to plastics.
- Small particle size emulsion with excellent film forming characteristics.
- Lacquer like fast drying and hardness development.
- Compatibility with water-reduced alkyds.

Benefits

- Facilitates the formulation of coatings for a range of difficult plastic substrates.
- Facilitates the formulation of high gloss coatings with excellent appearance.
- Easily applied and suitable for factory applied applications.
- Good resistance to corrosion.

Typical Physical Properties

(These properties are typical but do not constitute specifications)

Property	Typical Values
Appearance	Opaque, white to yellow liquid
Solids, by weight, %	41.5
Solids, by volume, %	39.5
Density (g/ml), wet	1.03
Density (g/ml), dry	1.08
pH	7.4
Minimum Film Formation Temperature ($\pm 2^\circ\text{C}$)	52
Glass Transition Temperature ($\pm 2^\circ\text{C}$)	56
Viscosity (Brookfield LV #3, 60 rpm), cps	< 1000
Stabilization	Anionic
Acid number (solids basis)	33
Storage precautions	Protect from freezing

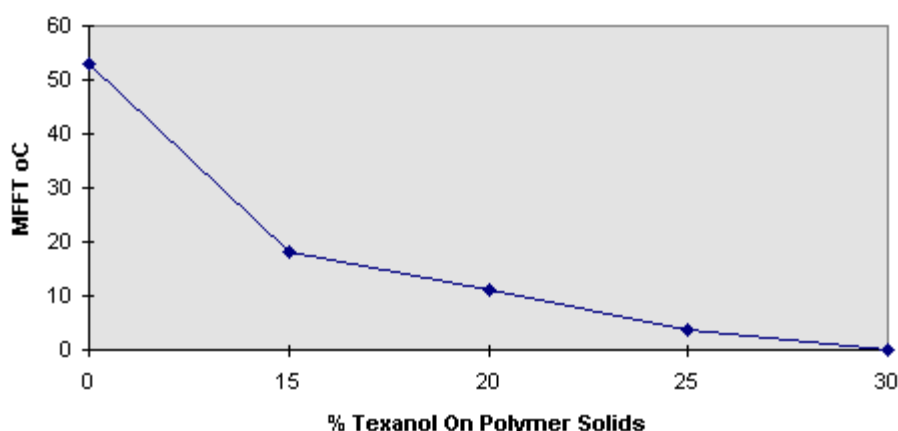


Formulation Guidelines

PRIMAL™ WL-51 Emulsion is designed as a very hard, thermoplastic polymer and its intended applications, such as plastic coatings and general industrial finishes, require this property.

A consequence of this is that, being an emulsion polymer, PRIMAL WL-51 Emulsion has a relatively high coalescent requirement at ambient cure conditions. This aspect is frequently underestimated by new formulators using PRIMAL WL-51 Emulsion. The graph below illustrates the point, comparing the minimum film forming temperature (MFFT) of PRIMAL WL-51 Emulsion versus increasing levels of Texanol coalescent.

MFFT of PRIMAL WL-51 Emulsion / Texanol coalescent Blends



Formulators should note Texanol coalescent is a slow coalescent - it remains in the polymer film for extended periods and decreases the early tack resistance and block resistance of coatings. Other coalescents, particularly glycol ethers, are generally faster to evaporate. However these glycol ether coalescents tend to be less efficient than Texanol coalescent and hence need to be added at even higher levels.

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

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 within the Asia-Pacific 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.

Note on Asia-Pacific Product Line

Product availability and grades vary throughout the countries in Asia-Pacific. Please contact your local Dow Coating Materials representative for further information and samples.

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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