



Technical Data Sheet

PRIMAL™ SG-380 DS Emulsion

For high performance semi-gloss to matt paints

Regional Product Availability

Europe

Product Description

PRIMAL™ SG-380 DS Emulsion is an APEO-free* pure acrylic binder for formulating high-performance semi-gloss to matt paints. PRIMAL™ SG-380 DS Emulsion is based on an optimal polymeric composition combining hydrophobicity and self-cross linking technology. This specific combination offers superior performance to coatings based on PRIMAL™ SG-380 DS Emulsion such as excellent hydrophilic stain resistance, very good wet scrub performance and block resistance. The optimal composition and MFFT of PRIMAL™ SG-380 DS Emulsion make it a very versatile binder. It can be used in high quality semi-gloss to matt interior wall paints (< CPVC) as well as in high durable exterior coatings.

Key Features

- Excellent stain removal
- Excellent grease resistance
- Excellent alkyd adhesion
- Very good block resistance
- Low VOC* content formulations
- Pure acrylic exterior durability

* APEO and VOC substances are not intentionally added and are not knowingly introduced from another raw material.

Typical Properties

These are typical properties, not to be construed as specifications

Typical physical properties	Typical Values
Appearance	Milky white liquid
Solids content	44.5 – 45.5 %
pH	8.5 – 9.5
Brookfield LV Viscosity (spindle 3,60 rpm)	< 1000 mPa.s
Minimum Film Formation Temperature	~ 18°C
Specific Gravity (wet polymer)	1.05 g/cm ³
Specific Gravity (dry polymer)	1.13 g/cm ³

Formulation Guidelines

PRIMAL™ SG-380 DS Emulsion used in interior coating offers improved film performance versus conventional polymers. It offers excellent stain resistance and “easy to clean” properties.

PRIMAL™ SG-380 DS Emulsion, thanks to its film flexibility, is also a suitable candidate to formulate high durability exterior wood coatings with superior dirt pick up resistance.

Below are some guidelines to help formulators

Dispersants

In our studies, good pigment dispersion and stability results were obtained with OROTAN™ 731A-ER and OROTAN™ 165 Dispersants at 1% active ingredient level based on pigment and extenders.

Defoamers

Standard defoamers can be used with PRIMAL™ SG-380 DS Emulsion. For example, Byk-024 added in the grind at 0.10 - 0.15% on total formulation showed very good results.

Rheology modifiers and thickeners

Viscosity adjustment and rheological profile can easily be obtained by using HEUR type rheology modifiers. High shear viscosity builders such as ACRY SOL™ RM-5000 or ACRY SOL™ RM-2020 Rheology Modifiers and/or medium shear viscosity builders such as ACRY SOL™ RM-8W are suggested to achieve the desired viscosity profile.

Coalescents and co-solvents

PRIMAL™ SG-380 DS Emulsion has a low coalescent demand. This contributes to a very good early block resistance, leaves more formulation latitude to achieve improvements in open time by using co-solvent. It is suggested to use a level of 7-8% coalescent, calculated on binder solids. Our studies showed that a level of 8% of Texanol or DOWANOL™ DPnB Glycol Ether on polymer solids was suitable to achieve excellent dry film performance.

Extenders and opaque polymer

Standard extenders can be used in paints formulated with PRIMAL™ SG-380 DS Emulsion.

Calcium carbonates like Durcal 10 or Durcal 2 showed to be suitable to formulate high quality paints. In matt formulation paints (below CPVC) very good stain resistance performance were found when using Minex S-6. Hard extenders like Minex S-6 or lamellar type like Mica have shown to contribute to very good exterior durability.

Dow organic opacifier ROPAQUE™ Ultra E has shown excellent results when used in satin to matt formulations based on PRIMAL™ SG-380 DS Emulsion. Additionally, the use of ROPAQUE™ Ultra E in exterior coatings is suggested to further improve dirt pick up and algae and mold resistance.

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 or national 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 or national regulations. Contact your Dow Coating Materials Technical Representative for more information.
Chemical Registration	Many countries within EMEA 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 EMEA Product Line	Product availability and grades vary throughout the countries in the EMEA area. 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.
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