

EPS[®] 2507

DATA SHEET

SELF-CROSSLINKING STYRENATED ACRYLIC EMULSION

DESCRIPTION

EPS 2507 is a self-crosslinking, styrenated acrylic emulsion offering excellent gloss, corrosion and chemical resistance, as well as early water resistance and rapid hardness development. EPS 2507 provides the capability to formulate coatings at very low VOCs.

- ✓ Excellent gloss and depth of image (DOI)
- ✓ Excellent corrosion and chemical resistance
- ✓ Excellent block resistance, and rapid hardness development
- ✓ Excellent early water resistance and blush resistance
- ✓ Excellent adhesion to a variety of ferrous and non-ferrous substrates, particularly CRS, aluminum, and galvanized substrates.
- ✓ Alkyl Phenol Ethoxylate (APE) – free

Specifications

Weight Solids: 48.0 ± 0.7%
Weight/Gallon: 8.65 lbs. ± 0.10
pH: 8.0 - 9.0

Suggested Coalescing Solvent(s)

(% Solvent on Binder Solids – Pass 40°F LTC Test)

DPnB, Hexyl Cellosolve (EH) 20%

Typical Properties

Volume Solids: 46.0 ± 0.7%
Volatile(s): Water

Suggested Formulations

EPS 2507 WHT ST1 - White High Gloss Enamel

05-08-2014

Questions? Call EPS Technical Service @ 1-800-601-8111

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FORMULATING GUIDELINES

The following guidelines are offered to assist the paint formulator in achieving the high performance properties offered by EPS 2507. Questions? – Please call EPS Technical Service at 800.601.8111.

Co-Solvents:

Due to its high performance capabilities and ability to reach low VOC levels, EPS 2507 has been designed to work with few select coalescing solvents. Lab results have found that the use of DPnB or Hexyl Cellosolve (EH) at levels of only 20% is necessary to provide low temperature coalescence (LTC) at 35°F. To improve performance, it may be necessary to increase the level of coalescent used, or to incorporate plasticizers. Those found to give particularly good results include Benzoflex 9-88 (Velsicol) and Santicizer 160 (Ferro). **Note: The use of Texanol is not recommended, due to an inability to achieve proper coalescence. Also, the use of E-series solvents is not recommended, due to perceived instability issues.**

Dispersants:

The use of Tamol 681 (Dow) or Disperse-Ayd W-33 (Elementis) is recommended for dispersing pigments in formulas using EPS 2507. The use of these dispersants has been found to optimize corrosion and water resistance properties, with Disperse-Ayd W-33 lending the least amounts of VOCs to the finished formula.

Defoamers:

A variety of foaming agents were found effective in formulations using EPS 2507. Among those most effective were Octafoam S-675 (Hi-Mar Specialties), Airex 901W (Tego Chemie), and BYK 024 (BYK).

Flash Rust Inhibitors:

The use of a flash rust inhibitor in DTM paints is strongly recommended. EPS suggests the use of Sodium Nitrite, at a maximum level of one solid pound per 100 gallons of finished material.

Thickeners:

The choice of thickeners will depend heavily on needed properties such as viscosity, sag resistance, and flow / leveling when applied. In order to attain these properties, it has been determined that a combination of rheology modifiers may be needed when formulating with EPS 2507. Among those found most adequate for viscosity control are DSX 1550 (BASF), and Polyphobe TR-116 (Dow). Among those found most desirable for sag resistance and flow control are Rheolate 1 (Elementis), Optiflo L100 (BYK), Acrysol RM-2020 (Dow) and Polyphobe TR-117 (Dow). Lab work has also shown adequate finished rheology properties when RM-2020, Polyphobe TR-116 or Polyphobe TR-117 are used as sole thickeners.

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SUGGESTED FORMULATION

FORMULA: EPS 2507 WHT ST1 (03/14/07)
HIGH GLOSS WHITE ENAMEL

<u>Pounds</u>	<u>Gallons</u>	<u>Raw Material</u>	<u>Supplier</u>	<u>Instructions</u>
60.00	7.20	Water		Add in order with good agitation.
15.00	1.65	Tamol 681	Dow	
4.00	0.55	Surfynol 104A	Air Products	
3.00	0.36	Airex 901W	Tego Chemie	
1.00	0.13	AMP-95	Dow	
200.00	5.86	TiPure R-706	Du Pont	
3.00	0.34	Rheolate 1	Elementis	
560.00	64.74	EPS 2507	EPS	Letdown in order.
3.00	0.36	S-675 Defoamer	Hi-Mar Specialties	Add grind at this point.
3.50	0.39	Nuosept 485	Ashland	
69.10	8.30	Water		Premix and add with good agitation.
10.00	1.20	4% Sodium Nitrite solution		
53.80	7.03	DPnB	Lyondell	
8.10	0.87	Benzoflex 9-88	Eastman	
4.00	0.48	Water		Premix and add with good agitation.
4.00	0.44	Polyphobe TR-117	Dow	
0.50	0.06	Water		Premix and add to adjust viscosity.
<u>0.50</u>	<u>0.06</u>	Polyphobe TR-116	Dow	
1002.50	100.00	Totals		

Formulation Parameters

Weight Solids	49.34	%
Volume Solid	38.45	%
Weight / Gallon	10.03	lb/gal
Pigment Volume Conc.	16.43	%
Pigment / Binder	0.74	
VOC	157	g/l
	1.31	lb/gal

Typical Paint Properties

Viscosity (Stormer)	80-90 KU
pH	8.0-9.0
Corrosion Resistance (ASTM B117)	200+ hours
(1.5-2.0 mils DFT on unpolished CRS)	

Suggested Application Methods

Spray, Brush, Roll

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