Polymer for High Performance Gloss Interior/Exterior Coatings

BENEFITS

Early high temperature block resistance

Print resistance

Fast hardness development

Resistance to dirt pickup

Gloss retention

Tack resistance

Formulation to near zero VOC paints

END USES

Semi-gloss to high gloss interior/exterior coatings for architectural DIY and/or professional paint formulas

MARKET SEGMENTS

Architectural

CHEMISTRY

Self-Crosslinking Technology

100% Acrylic Film-Forming Polymer

Technical Data Sheet



EPS 2799 is a 100% acrylic film-forming polymer based on Self-Crosslinking Technology which makes it an excellent choice for high performance gloss interior and exterior Architectural DIY or Professional paints. EPS 2799 is a versatile polymer recommended for use in semi-gloss to high gloss enamels that require excellent hardness and tack resistance in both white / pastel bases and fully tinted clear / neutral bases.

Specifications

| Weight Solids | 48.0 +/- 0 .7% |
|---------------|----------------|
| Weight/Gallon | 8.85 +/- 0.1 |
| рН | 8.5 – 9.0 |

Typical Properties

| Volume Solids | 45.0 +/- 0 .7% |
|---------------|----------------|
| MFFT | 21° C |

Suggested Coalescing Solvent(s)

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

| Texanol and/or EPS 9147 (White Base) | 9-11% |
|--------------------------------------|----------|
| Texanol and/or EPS 9147 | 2.5% |
| Ultra-Deep Base (tinted) | 3-5% |

Suggested Formulations

EPS 2799 Gloss White/Pastel Dry TiO₂ Base

EPS 2799 Gloss White/Pastel Slurry TiO₂ Base EPS 2799 Gloss Ultra-Deep Base

APEO-Free, 100% acrylic film-forming polymer offering excellent properties including:

- Early high temperature block resistance
- Print resistance
- · Fast hardness development
- Low-tack, even in near zero VOC formulations
- · Resistance to dirt pickup
- Gloss retention in both accelerated QUV-A (ASTM G154) and natural exposure testing
- Scrub resistance (ASTM D2486)
- Near zero VOC paints can be formulated using the EPS 9147 coalescent
- Exterior exposures in progress in Los Angeles CA, Marengo IL, and Fort Myers FL.



TECHNICAL SUPPORT

The following guidelines are offered to assist the paint formulator in achieving the high performance properties offered by EPS 2799

SDS

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Suggested Formulation

| Formula: EPS 2799 Gloss White/Pastel Dry TiO₂ Base Very Low VOC, Interior/Exterior | | | | |
|---|---------|--------------------|----------|--------------------------------|
| Pounds | Gallons | Raw Material | Supplier | Instructions |
| 75.0 | 9.00 | Water | | |
| 12.0 | 1.36 | Disperbyk 190 | ВҮК | |
| 2.0 | 0.23 | Tergitol 15-S-9 | Dow | |
| 1.0 | 0.12 | Byk 022 | ВҮК | |
| 1.5 | 0.16 | Nuosept 498 | Ashland | |
| 225.0 | 6.59 | Ti-Pure R-706 | Chemours | Disperse under high shear |
| 10.0 | 1.09 | Acrysol RM-2020NPR | Dow | |
| 589.6 | 67.00 | EPS 2799 | EPS | Add dispersion under agitation |
| 86.0 | 10.32 | Water | | - - |
| 25.6 | 2.90 | EPS 9147 | EPS | Mix 10 minutes |
| 1.0 | 0.12 | Ammonium Hydroxide | | |
| 1.0 | 0.12 | Byk 024 | ВҮК | |
| 8.0 | 0.87 | Acrysol RM-2020NPR | Dow | Mix 10 minutes |
| 1.0 | 0.11 | Acrysol RM-8W | Dow | Mix 15 minutes |
| 1038.7 | 100.00 | Totals | | |

| Formulation Properties | | |
|------------------------|--------------|--|
| Weight Solids | 52.6% | |
| Volume Solids | 41.0% | |
| Pigment Weight | 21.7% | |
| Pigment Volume Conc. | 17.9% | |
| Pigment/Binder | 0.80 | |
| VOC Level | <5 g/L | |
| Weight/Gallon | 10.39 lb/gal | |
| | | |

| Typical Properties | | |
|--------------------|-------------------|--|
| Viscosity | 90 – 95 KU | |
| рН | 8.5 – 9.5 | |
| Color | White | |
| Gloss at 60° | >75 | |
| Gloss at 20° | >40 | |



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Suggested Formulation

| Formula: EPS 2799 Gloss White/Pastel Slurry TiO ₂ Base Very Low VOC, Interior/Exterior | | | | |
|---|---------|--------------------|----------|----------------|
| Pounds | Gallons | Raw Material | Supplier | Instructions |
| 572.0 | 65.00 | EPS 2799 | EPS | |
| 326.8 | 17.07 | Ti-Pure R-746 | Chemours | |
| 1.0 | 0.11 | Tergitol 15-S-9 | Dow | |
| 1.5 | 0.16 | Nuosept 498 | Ashland | |
| 29.0 | 3.31 | EPS 9147 | EPS | Mix 10 minutes |
| 1.0 | 0.13 | Ammonium Hydroxide | | |
| 2.0 | 0.23 | BYK 024 | ВҮК | |
| 5.0 | 0.57 | Tamol 165A | Dow | |
| 100.0 | 12.00 | Water | | |
| 10.0 | 1.09 | Optiflo T1000 | ВҮК | Mix 10 minutes |
| 3.0 | 0.33 | Optiflo TVS VF | ВҮК | Mix 15 minutes |
| 1051.3 | 100.00 | Totals | | |

| Formulation Properties | | |
|------------------------|--|--|
| 3.2% | | |
| 0.6% | | |
| 3.8% | | |
| 0.0% | | |
| .91 | | |
| 5 g/L | | |
| 0.51 lb/gal | | |
| | | |

| Typical Properties | | |
|----------------------|-----------|--|
| Viscosity 90 – 95 KU | | |
| рН | 8.5 – 9.5 | |
| Color | White | |
| Gloss at 60° | >75 | |
| Gloss at 20° | >40 | |
| | | |

White/Pastel Base Formulation Guidelines

Coalescent – Low-VOC coalescent preferred (EPS 9147) for optimum gloss development Pigment – Ti-Pure R-746 preferred, Kronos 4311 and Tiona 596 can also be used



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Suggested Formulation

| Formula: EPS 2799 Gloss Ultra-Deep Base Low VOC, Interior/Exterior | | | | |
|--|---------|--------------------|--------------|---------------------------------|
| Pounds | Gallons | Raw Material | Supplier | Instructions |
| 125.0 | 15.00 | Water | | Add in order, mix thoroughly |
| 554.4 | 63.00 | EPS 2799 | EPS | |
| 2.0 | 0.23 | BYK 1611 | ВҮК | |
| 1.5 | 0.16 | Nuosept 498 | Ashland | |
| 8.8 | 1.21 | Surfynol 104A | Air Products | |
| 8.0 | 0.91 | EPS 9147 | EPS | Mix 10 minutes |
| 1.0 | 0.13 | Ammonium Hydroxide | | |
| 2.0 | 0.23 | BYK 1611 | ВҮК | |
| 129.4 | 15.53 | Water | | |
| 25.0 | 2.73 | Optiflo T1000 | ВҮК | Mix 10 minutes |
| 8.0 | 0.87 | Optiflo TVS VF | BYK | Mix 15 minutes |
| 865.1 | 100.00 | Totals | | |

| Formulation Properties | | |
|------------------------|-------------|--|
| Weight Solids | 33.4% | |
| Volume Solids | 30.9% | |
| Pigment Weight | 0% | |
| Pigment Volume Conc. | 0% | |
| VOC Level | 17 g/L | |
| Weight/Gallon | 8.65 lb/gal | |

| Typical Properties | | |
|------------------------|-----------|--|
| Viscosity 100 – 110 KU | | |
| рН | 8.5 – 9.5 | |
| Color | Clear | |

Ultra-Deep Base Formulation Guidelines

Neutralization - Ammonia or AMP 95 preferred

Additives – Aquacer 539 for improved block performance (0.5-2% on total formulation)

