EPS® 2293 DATA SHEET

SELF-CROSSLINKING ALL-ACRYLIC EMULSION

Description

EPS 2293 is a self-crosslinking all-acrylic emulsion offering excellent adhesion and early water resistance for use in clear sealers over tiles and cementitious substrates. Clear coatings can be formulated at less than 100 g/l VOC. EPS 2293 offers excellent performance in exterior stain formulations for deck and wood applications.

- ✓ Excellent early water resistance – no blushing, whitening or blistering
- ✓ Excellent gloss development and gloss retention
- ✓ Excellent wet and dry adhesion to wood, tiles, glass, and cementitious substrates
- ✓ Excellent exterior durability and performance as a wood stain
- ✓ Excellent low temperature film formation (10 mils at 38°F)
- ✓ Excellent chemical resistance and abrasion resistance
- ✓ VOC compliant (< 100 g/l clear formulations and <50 g/l pigmented formulations**)** with freeze-thaw stability
- ✓ Non-APEO raw materials

Specifications

Weight Solids:	40.0 ± 0.7%
Weight/Gallon:	8.70 ± 0.10
pH:	8.0 – 9.0

Suggested Coalescing Solvent(s)

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

Texanol in clears	6%
Texanol in pigmented paints	10%

Typical Properties

Volume Solids:	37.0 ± 0.7%
MFFT:	< 10° C
Volatile:	Water
Color:	Translucent

Suggested Formulations

EPS 2293 CS2 - Clear Wet Look Sealer/Stain Base

EPS 2293 FP1 - Gray Concrete Floor Paint - 50 g/l VOC

EPS 2293 ST1 – Semi-Trans Deck Stain – Clear Base

9-15-2015

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

EPS® 2293 SUGGESTED FORMULATION

FORMULA: 2293 CS2 (6/15/2009)

CLEAR WET-LOOK SEALER / STAIN BASE FOR CONCRETE

Pounds	Gallons	Raw Material	Supplier	Instructions
183.3	22.00	Water		Add raw materials under
645.3	73.75	**EPS 2293**	**EPS**	good agitation.
3.0	0.34	Surfynol PSA-336	Air Products	
3.0	0.35	BYK 024	BYK	
15.0	1.89	Texanol	Eastman	
3.0	0.40	Ammonium Hydroxide 28%		
5.0	0.56	Proxel AQ	Lonza	Use to rinse mill.
9.3	1.00	Ethylene Glycol		
866.9	**100.29**	**Totals**		

Formulation Parameters

Weight Solids	30.45%
Volume Solids	27.83%
Weight / Gallon	8.64 lb/gal
Pigment Volume Conc.	0%
Pigment / Binder	0%
VOC	98 g/L
	0.82 lb/gal

Typical Properties

Viscosity (#2 Zahn cup)	12 – 18 sec
pH:	8.5 – 9.5
Color	Clear
Gloss: 20/60° on Black Carrara Glass	76 / 87

Suggested Application Methods

Brush, Roller, Spray

NOTE:
The use of formaldehyde-containing raw materials must be avoided.
A mildewcide / algaecide may be incorporated in regions where mildew growth is prevalent.

9-15-2015

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EPS® 2293 SUGGESTED FORMULATION

FORMULA: 2293 FP1 (272-8-2) (10/14)

GRAY FLOOR PAINT FOR CONCRETE – 50 G/L VOC

Pounds	Gallons	Raw Material	Supplier	Instructions
82.0	9.84	Water		Add raw materials under good
7.0	0.76	Tamol 731 N	Dow	agitation, water as needed.
3.0	0.34	Triton CF-10	Dow	
1.0	0.13	Drewplus L-475	Ashland	
75.0	2.19	R902	Dupont	
150.0	6.90	Minex 7	Unimin	
2.0	0.10	Attagel 40		Grind
1.5	0.07	Potassium Tripolyphosphate		
552.5	63.14	**EPS 2293**	**EPS**	
5.0	0.55	Proxel AQ	Lonza	Add grind to letdown
1.0	0.13	Ammonium Hydroxide 28%		
9.33	1.00	Ethylene Glycol		
80.8	9.70	Water		
22.0	2.51	**EPS 9147**	**EPS**	
2.0	0.26	Drewplus L475	Ashland	
1.0	0.11	Acrysol RM-825	Dow	Add slowly, mix 20 mins
6.0	0.66	Acrysol RM-2020	Dow	Add slowly, mix 20 mins
7.84	0.77	**8594 Carbon Black Colorant**	**CCA**	
5.22	0.33	**8576 Yellow Oxide Colorant**	**CCA**	Mix 20 minutes
1014.19	**99.49**	**Totals**		

Formulation Parameters

Weight Solids	48.21%
Volume Solids	36.78%
Weight / Gallon	10.19 lb/gal.
Pigment Volume Conc.	28.74%
Pigment / Binder	1.05
VOC	34 g/L
	0.28 lb/gal

Typical Properties

Viscosity (KU)	80 - 85
pH	8.5 – 9.5
Color	Gray
Gloss: 60°	10 - 15

Suggested Application Methods

Brush, Roller

The use of formaldehyde-containing raw materials must be avoided.
A mildewcide / algaecide may be incorporated in regions where mildew growth is prevalent.

9-15-2015

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EPS® 2293 SUGGESTED FORMULATION

FORMULA: 2293 ST1 (261-94) (8/15)

SEMI-TRANSPARENT EXTERIOR WOOD STAIN – 100 G/L VOC

Pounds	Gallons	Raw Material	Supplier	Instructions
568.8	65.0	**EPS 2293**	**EPS**	Add raw materials under good agitation
224.9	27.0	Water		
0.8	0.10	Ammonium Hydroxide 28%		
2.0	0.28	Surfynol 104A	Air Products	
8.0	0.96	Foamex 805	Tego	
10.0	1.09	Tinuvin 5151	BASF	
8.0	1.00	Michem WC 50	Michelman	
22.5	2.85	Texanol	Eastman	
11.0	1.15	Polyphase 663	Troy	
5.0	0.55	Acrysol RM-8W	Dow	Mix 20 minutes
860.91	**99.97**	**Totals**		

The stain base can be tinted with NovoColor® IP low VOC colorants from CCA. For example the addition of 3.0lb of 8538T Trans Oxide Red and 15.0lb 8570T Trans Oxide Yellow to 100 gal of base will achieve a Cedar color S/T stain.

Formulation Parameters

Weight Solids	29.03%
Volume Solids	26.46%
Weight / Gallon	8.61 lb/gal.
Pigment Volume Conc.	0.0%
Pigment / Binder	0.00
VOC	98 g/L
	0.82 lb/gal

Typical Properties

Viscosity (KU)	70 - 80
pH	8.5 – 9.5
Color	Clear Base

Suggested Application Methods

Brush, Roller, Spray

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9-15-2015

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EPS® 2293 FORMULATING GUIDELINES

The following guidelines are offered to assist the paint formulator in achieving the high performance properties offered by EPS 2293. Questions? – Please call EPS Technical Service at 800.601.8111.

Dispersants/Surfactants

- Recommended dispersants for paints include Tamol 731, Disperse-Ayd W-22, and BYK 152 or BYK 156
- Recommended surfactants include Triton CF-10 for paints and Surfynol PSA-336 for clear sealers Additional success in clear sealers has been seen with Surfynol 104A, 104BC, and 104E

Defoamers

- Drewplus L-475 is recommended for paints
- BYK 024 is recommended for clear sealers. Other polysiloxanes such as BYK 021, BYK 022 and BYK 028 have additional potential

Coalescents

- Texanol is the preferred coalescent. Preliminary testing has shown that EB also has potential

Rheological Modifiers

- A combination of RM-2020 and RM-825 have proven to provide a good balance between flow and leveling and also viscosity control and sag resistance in paints
- Optiflo L-100 at 1-5% by weight in clear sealers is effective in controlling run-off in horizontal applications where the substrate is not level. Care should be taken to avoid exceeding 25 seconds on a #2 Zahn cup, which may result in brush marks and improper flow and leveling

Preservatives

- "BIT" types are recommended as bactericides for in-can preservation. Lonza Proxel AQ and Troy Mergal K10N are recommended. It is mandatory that no formaldehyde be present
- "IPBC" types are recommended as dry film preservatives where ponding water may result. Fungitrol 940 has been shown to perform well

Flattening Agents

- BYK Ceraflour 1000 is the preferred flattening agent. Some settling will occur upon storage, but should be mixed in easily with light agitation. Ceraflour 1000 can be used at a rate of 10 lbs. to 20 lbs. per 100 gallons in clear sealers, depending on the level of flattening desired. It is essential that formaldehyde be avoided when choosing a flattening agent.
- Microspersion 31-35 from Micro Powders Inc. has proven to be effective also.

Stability

- The use of Potassium Tripolyphosphate is recommended for optimal shelf stability

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