



PRIMAL™ ECO-8 Binder

Regional Product Availability

- Asia Pacific
- Europe, Middle East and Africa
- Latin America
- North America

Description

PRIMAL™ ECO-8 Binder is a non ionic, self-crosslinking acrylic polymer which can be used in a wide variety of textile applications. PRIMAL ECO-8 Binder is recommended for use in fabric finishing, pigment printing, fabric backcoating and as an adhesive for fiber flocking and lamination. PRIMAL ECO-8 Binder is a self-crosslinking polymer and thus does not require the addition of nitrogenous or other external crosslinking agents to achieve their durability to washing and dry cleaning. If, however, a faster crosslinking rate is desirable, or less than optimal crosslinking conditions exist, an acid or latent acid catalyst may be added to speed the rate of crosslinking.

Key Features

- Easy to formulate
- Good resistance to discoloration on exposure to ultraviolet light and aging
- Hydrophilic
- Durability to washing or dry cleaning

Typical Physical Properties

Property	Value
Appearance	Milky white liquid
Solids content %	45.5
pH	3
Viscosity (#3 spindle, 30 rpm)	<550 mPa.s
Specific gravity at 25°C	1.04
Tg	-14°C
Ionic Charge	Nonionic
Type	Self-crosslinking

Recommended Formulation Guidelines

Crosslinking

PRIMAL™ ECO-8 Binder is a self-crosslinking emulsion which does not need an external crosslinker to achieve water and solvent resistance or durability to washing and drycleaning. Self-reactive sites are built into this latex polymer which crosslink with a combination of time and heat (recommendations are 3 min at 150°C). When increased durability is desired, an external crosslinker such as Cymel 303 or Cymel 385 (from CYTEC) can be used at 0.5 to 3% resin solids on binder solids.

Recommended
Formulation
Guidelines (Cont'd)

Catalyst

Acid catalyst such as ammonium nitrate or ammonium chloride can be used to accelerate the cure of PRIMAL™ ECO-8 Binder where curing capacity is limited. The following levels catalysts are recommended:

Catalyst	Solids on Emulsion Solids	Comments
Ammonium nitrate	1%	Add at 25% solution
Ammonium chloride	1.5%	Add at 25% solution

pH

To maximize emulsion shear stability, the pH of the batch should be adjusted to 8.0 to 8.5 with a volatile base such as ammonium hydroxide.

Typical Starting
Point Formulation
Properties

Home upholstery starting point formulation

Components	Quantity
Water	14.1
Defoamer	0.4
OROTAN™ 731 Dispersant	0.3
Calcium carbonate	14.8
PRIMAL™ ECO-8 Binder	65.3
Premix	
ACRYSOL™ ASE 60 Emulsion	1.7
Water	1.7
Ammonium nitrate (25%)	1.7
Ammonia (28%)	1.7 to pH: 8.5

Fabric backcoating starting point formulation

Components	Quantity
PRIMAL ECO-8 Binder	94.6
Defoamer	0.3
Premix	
ACRYSOL ASE 60 Emulsion	1.6
Water	1.6
NH4NO3 (25%) Adjust pH to 8.5 with ammonia (28%)	1.9

Clear crushed foam starting point formulation

Components	Quantity
PRIMAL ECO-8 Binder	50
PRIMAL TR-407 Binder	14.9
Premix	
ACRYSOL ASE 60 Emulsion	0.5
Water	0.7
Sodium lauryl sulfate (28%)	0.7
Ammonia (28%)	0.5 to pH: 9

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Recommended Operating Guidelines	<ul style="list-style-type: none"> • Foam to 0.2 density the formulation above • Coat on the fabric with a knife at 0.15 mm • Dry at 110°C for 120 seconds • Crush at 3 bars and 110°C • Cure at 150°C for 3 minutes
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	<p>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.</p> <p>It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.</p>
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