



PolyAziridine, LLC  
P.O. Box 364  
Palm Beach, FL 33480  
TEL: 610-913-7121  
FAX: 610-913-7125

**TECHNICAL  
DATA SHEET**

# POLYFUNCTION AZIRIDINE CROSS-LINKER PZBI-25

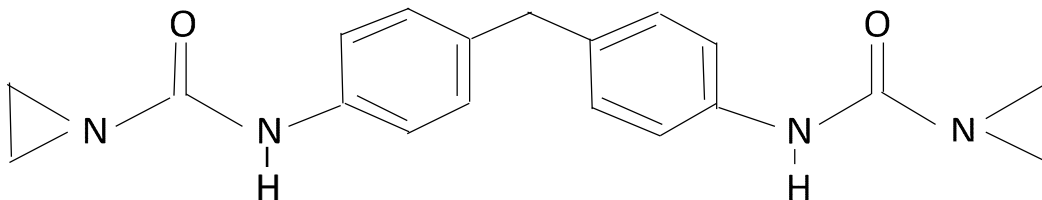
## PZBI-25 Cross-linker

PZBI-25 is a difunctional polyfunctional aziridine cross-linker used in acid functional coatings, inks, and adhesives to increase adhesion, physical, and chemical properties. It is activated at temperatures of 80° C and 120° C.

## Typical Properties

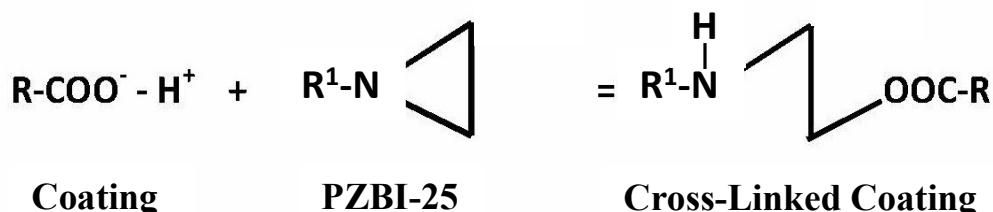
<i>Typical Properties</i>	PZBI-25
CAS Number:	7417-99-4
Appearance:	White Dispersion
Density @ 25° C g/ml	1.05-1.11
Viscosity, cp @ 25°	<300
Solids:	27 ± 1

## PZBI-25 Molecule



## Polyfunctional Aziridine Reaction Mechanism

PZBI is used in acid functional aqueous coatings, inks, and adhesives based on acrylic emulsions and polyurethane dispersions with carboxyl groups. To cross-link, an active hydrogen must be available to open the



aziridine ring. The reaction mechanism is show below:

The active hydrogen on the carboxyl group attaches itself to the nitrogen of the PZBI-25, which opens the ring and reacts with the oxygen of the group.

## Addition Level of Polyfunctional Aziridine

PZBI-25 is typically added at levels of 1% to 3% to finished formulated coatings, inks, or adhesives. Through experimentation, it is best to determine the ideal level of the cross-linker to be used in each system to achieve the desired end results.

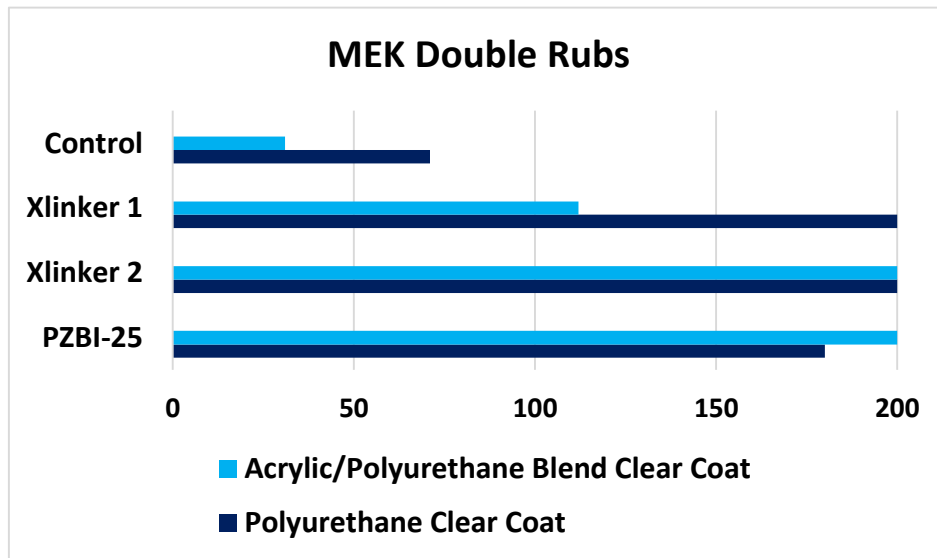
## Handling and Storage of PZBI-25

Prior to handling the PZBI-25, consult the SDS for proper handling techniques and recommended safety equipment to be used.

Keep the container closed when not in use. Store inside in temperatures between 5° C and 30° C and protect from freezing. The dispersion can be affected by low temperatures.

Shake well before using. The shelf-life is 6 months.

## MEK Test Results of PZBI-25



## Chemical Spot Test Results of PZBI-25

		Water	IPA	Red Wine	Mustard
Control	Acrylic/Polyurethane Blend Clear Coat	++	-	++	-
	Polyurethane Clear Coat	++	-	++	-
Xlinker 1	Acrylic/Polyurethane Blend Clear Coat	++	++	++	-
	Polyurethane Clear Coat	++	++	++	-
Xlinker 2	Acrylic/Polyurethane Blend Clear Coat	++	++	++	+
	Polyurethane Clear Coat	++	++	++	-
PZBI-25	Acrylic/Polyurethane Blend Clear Coat	++	++	++	+
	Polyurethane Clear Coat	++	++	++	+

## PZBI-25 Summary Compared to Traditional Polyfunctional Aziridine

	Ease of Addition	Addition Level	Ambient Cross-linking	Chemical Resistance	Potential for 1K	Functionality
Trifunctional cross-linkers	+	++	++	++	-	++
PZBI-25	++	++	-	++	+	+

## Polyfunctional Aziridine Application Properties and Benefits

<i>Applications</i>	<i>Properties and Benefits</i>
Adhesives/Laminates	Improves cohesive strength Improves adhesion to difficult substrates
Protective Varnishes	Improves scuff resistance Improves chemical and water resistance Excellent color and clarity Easily mixed and dispersed into varnish
Printing Inks	Improves adhesion to difficult substrates Improves scuff resistance Improves chemical and water resistance  Excellent color and clarity Easily mixed and dispersed into ink
Textile/Nonwoven Coatings	Improves chemical and water resistance Improves wash resistance Improves oil resistance

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