



## Curing Agents

### epoxa us™ 33-01

#### Description

epoxa us™ Curing Agent 33-01 is a medium viscosity, modified aliphatic amine, amber color epoxy hardener. Systems formulated with epoxa us Curing Agent 33-01 exhibit good chemical resistance, color stability and heat resistance. It is ideally suited for molding and casting applications.

#### Applications

- \* Molding
- \* Casting
- \* High Temperature Performance
- \* Composite Tubing
- \* Specialty Parts

#### Key Features and Benefits

- Great impact resistance, medium viscosity
- Modifiable flexibility
- Excellent volume stability
- Good chemical resistance
- Positive performance under hot conditions

#### Sales Specification

Property	Units	Value	Test Method/Standard
Amine value	mg/g	715-755	ASTM D2896
Viscosity at 25°C	cP	4000-6000	ASTM D2196
Color	Gardner	6	ASTM D1544

#### Typical Properties

Property	Units	Value	Test Method/Standard
Equivalent weight, approx.		75	
Density @ 25 °C	lbs/gal	8.15	ASTM D1475

## 33-01

Flash point	° C	>167	ASTM D3278
Appearance		Amber	
Mix ratio with			
EEW 188-192 epoxy	phr	20	

### Performance Properties

#### Properties of epoxa us 33-01 curing agent

<b>Components</b>	<b>Method</b>	<b>Units</b>	<b>Value</b>
epoxa us 33-01		pbw	20
epoxa us 1600-01		pbw	93
HELOXY™ Modifier 61		pbw	7

### Handling Properties

#### 25°C

Viscosity, Mixed		cP	2500-3000
Peak Exotherm		°C	140
Pot life, 250 g, 25 °C		min	20

### Cured Properties

Heat Deflection Temperature	ASTM D648	°C	56
Tensile Strength	ASTM D638	psi	7,710
Tensile Elongation		%	14

### Starting Formulation Molding

<b>Components</b>	<b>Units</b>	<b>Value</b>
1600-01 resin	pbw	42
HELOXY Modifier 61	pbw	7
Aluminium Paste	pbw	8
Barium Sulfate	pbw	43
33-01	pbw	13

### Physical Properties

Percent of solids epoxa 33-01		100
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## 33-01

Pot life at 25 °C	minutes	20
Dry times		
Dust-free	hours	1
Tack-free	hours	1.2
Through-cure	hours	4

### Coating Properties

25 c 50% R.H.

1 day tack-free

10 c 90% R.H.

1 day tack-free

7 days Tack-free, slight blush

High humidity could cause slight blush, this will not affect the final properties of the system.

Post cure recommended to achieve highest performance levels.

Non critical mixing ratio allows variations in final properties

### Resistance to Chemicals

Resistant	24 hour immersion, less than 50% loss in hardness, no blistering, no whitening.	
	25% ammonium hydroxide	5% HNO <sub>3</sub>
	beer	10% HCl
	xylene	distilled water
	20% HCl	mineral spirits
Limited Resistance	24 hour immersion, greater than 50% loss in hardness, no blistering, slight whitening.	
	10% HNO <sub>3</sub>	50% NaOH
	10% H <sub>2</sub> SO <sub>4</sub>	wine
	10% acetic	10% lactic
	Not Resistant	24 hour immersion, greater than 50% loss in hardness, blistering, whitening, adhesion loss.
Ethanol		5% H <sub>3</sub> PO <sub>4</sub>
fuming H <sub>2</sub> SO <sub>4</sub>		methylene chloride
methyl ethyl ketone		50% acetic acid
		50% lactic acid

**Storage, Handling and Safety**

Please read and understand the latest MSDS before using epoxa us 33-01

Please refer to epoxa us website for more information on shelf life.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on epoxa us incorporated products should be directed to your epoxa us sales representative. Information and MSDSs on non epoxa us products should be obtained from the respective manufacturer.

**Packaging**

Available in gallon and drum quantities.

**Contact Information**

For product prices, availability, or order placement, MSDS and technical help please contact us.

[www.epoxaus.com](http://www.epoxaus.com)

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