

**AMICURE® UR10/30** Cure Accelerator**DESCRIPTION**

Amicure UR10/30 cure accelerator, a ground version of Amicure UR accelerator; is a substituted urea-based accelerator (1 Phenyl 3,3 dimethyl urea) for dicyandiamide-cured epoxy resins. It combines excellent latency at ambient temperature with rapid cure in systems heated above its activation temperature.

Amicure UR10/30 accelerator is supplied as a micropulverized crystalline solid which is easily dispersed into liquid epoxy resin.

**ADVANTAGES**

- Rapid cure and property development
- High glass transition temperature
- Good one-component shelf stability
- Good flow properties

**APPLICATIONS**

- One-component paste and film adhesives
- Heat-cure composites
- Prepreg composites

**STORAGE AND HANDLING**

Refer to the Safety Data Sheet for Amicure UR10/30 Cure Accelerator.

**SHELF LIFE**

At least 24 months from the date of manufacture in the original sealed container at ambient temperature. Store away from excessive heat and humidity in tightly closed containers.

**TYPICAL CURE SCHEDULE**

45-60 minutes at 265°F (130°C).

**TABLE 1: TYPICAL PROPERTIES**

<b>Appearance</b>	White Powder
<b>Melting Point (°C)</b>	130-133
<b>Assay (%)</b>	97
<b>Solubility in Water (%)</b>	<0.5
<b>Recommended Use Level (phr, EEW=190)</b>	0.5-3.0 parts with 4.0-8.0 parts dicyandiamide
<b>Particle size</b>	90% <30µm 50% <10µm

**TABLE 2: TYPICAL PERFORMANCE**

<b>Formulation</b>	
<b>Bis-A liquid resin (EEW=190)</b>	100.0
<b>Amicure CG-1200G</b>	6.0
<b>Amicure UR10/30</b>	2.0
<b>DSC Reactivity Profile*</b>	
<b>Onset Temp.</b>	145°C
<b>Peak Temp.</b>	155°C
<b>Glass Transition Temp.</b>	117°C

\* @ 10°C min. scan rate.

## SUPPLEMENTARY DATA

TABLE 3: REACTIVITY PROFILE

Formulation	1	2	3
Bis-A liquid resin (EEW=190)	100.0	100.0	100.0
Amicure CG-1200	6.0	6.0	6.0
Amicure UR2T	2.0	3.0	4.0
<b>Stroke Gel Time (min)</b>			
@ 266°F (130°C)	12.0	10.5	9.5
@ 285°F (140°C)	7.3	5.3	5.3
@ 300°F (150°C)	4.3	3.5	3.5
@ 320°F (160°C)	3.2	2.3	2.3
@ 338°F (170°C)	2.0	1.5	1.6
@ 355°F (180°C)	1.6	1.3	1.2
<b>DSC Reactivity Profile*</b>			
Beginning of Exotherm (°C)	131	129	130
Onset (°C)	145	145	144
Peak Exotherm (°C)	155	154	152
Heat of Reaction, J/g	191	240	217
Glass Transition Temperature (°C)	117	120	117
<b>Isothermal Reaction at 265°F (130°C)</b>			
Time to reach peak exotherm (min)	7.2	6.7	6.2

\* Scan rate = 50°F (10°C)/min

FIGURE 1:  
GEL TIME VS. PHR OF AMICURE UR7/10/30

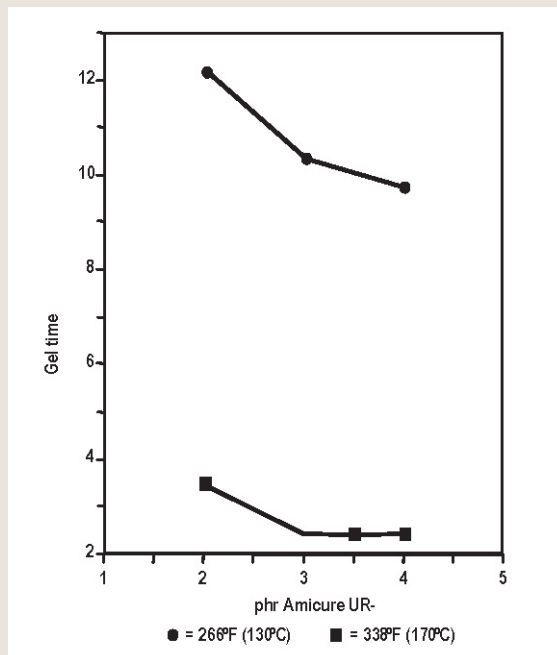
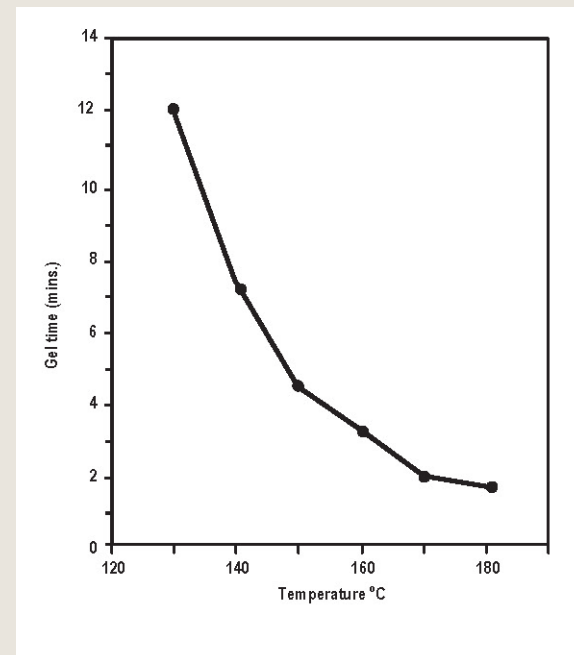


FIGURE 2:  
GEL TIME VS. TEMPERATURE, FORMULATION 1



Epoxy Curing Agents and Modifiers

# AMICURE<sup>®</sup> UR10/30 Cure Accelerator

**EVONIK CORPORATION**

7201 Hamilton Blvd.  
Allentown, PA 18195  
1 800 345-3148  
Outside U.S. and Canada 1 610 481-6799

**For Technical Information and Support:**

Americas: [picus@evonik.com](mailto:picus@evonik.com)  
EMEA: [apcse@evonik.com](mailto:apcse@evonik.com)

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