

## Technicure® Nano-Dicy

### Description:

Technicure® Nano-Dicy is a pulverized grade of dicyandiamide with an average particle size of about 1-2 micron. The products contains fumed silica to prevent clumping and improve flow. Typically the product is used with epoxy resin between 3-8 phr. Due to extremely fine particle size, the products reacts more fully allowing a faster cure without sacrificing formulation shelf stability. Technicure® Nano-Dicy can be used with accelerators to lower temperature of initiation. Suggested accelerators include Technicure® LC-80, Technicure® LC-100 and substituted ureas such as Technicure® MDU-11M, Technicure® PDU-250M and Technicure® TDU-200M. The type and loading level of an accelerator will provide excellent balance of low temperature reactivity and formulation shelf stability.

### Advantages:

- Long formulation shelf stability
- High glass transition temperature
- Excellent adhesion to a variety of substrates
- Can be used with an accelerator

### Typical Applications:

- One-component adhesives for auto, aerospace and electronics applications
- Composites such as pre-pregs
- Powder coatings

### Handling Precautions:

Refer to the product Safety Data Sheet

### Typical Properties:

Appearance:	White micronized powder
Average Particle Size:	1-2 micron
90%:	<5 micron
Melting point:	207- -211 °C
Assay:	99%
Moisture content:	<0.5%

Recommended use level with  
Epoxy resin (EEW=190): 3-8 PHR

### Typical Formulations (by wt.):

Liquid epoxy resin (EEW=190)	100	100	100
Technicure® Nano-Dicy	8	8	8
Technicure® PDU-250 <sup>1</sup>	0	1	0
Technicure® LC-80 <sup>1</sup>	0	0	3
Fumed silica (H 200U) <sup>2</sup>	1	1	1

### Reactivity by DSC<sup>3</sup>

Onset Temp., °C	182	144	121
Peak Temp., °C	192	154	141
Heat of Reaction, J/gm	294	296	355

<b>Glass Transition Temp.<sup>4</sup>, °C</b>	158	143	158
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### Shelf stability<sup>5</sup> at 40 °C

weeks	>12	2	>5
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1. Dicy accelerator – Product of ACCI Specialty Materials
2. Fumed silica – Product of OCI Company Ltd.
3. 10°C/min. scan rate
4. By DMA, after 30 minutes cure at 140°C
5. Time to double the viscosity

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