

## Technicure® D-44

### Description:

Technicure® D-44 is a pulverized grade of dicyandiamide with an average particle size of about 20 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 larger particle size, the products offers lower exothermic heat than the finer grade of Dicy. Technicure® D-44 reacts with epoxy resin at temperatures higher than 170°C unless an accelerator is used. 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:	20 micron
90%:	<44 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® D-44	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	185	144	121
Peak Temp., °C	195	154	141
Heat of Reaction, J/gm	192	260	330

### Glass Transition Temp.<sup>4</sup>, °C

	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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