

## OMICURE™ U-24 and OMICURE™ U-24M

### 2,4' Toluene Bis Dimethyl Urea

CAS NO. 17526-94-2

### DESCRIPTION

OMICURE U-24, an aromatic substituted urea, is intended for use as a latent accelerator for the dicyandiamide cure of epoxy resins. The addition of OMICURE U-24 to epoxy/dicy formulations reduces the time and/or temperature required to cure these shelf stable one part products. OMICURE U-24M represents the micronized grade of OMICURE U-24.

Compared to the other CVC substituted ureas, toluene bis dimethyl urea provides the greatest degree of acceleration to epoxy/dicy formulations. OMICURE U-24, at concentrations required to provide an equal degree of acceleration, will produce the least effect on cured properties. Suggested use levels of OMICURE U-24 are  $\leq 5$  phr. Curing can be accomplished in about 50 minutes at 100°C and in less than 3 minutes at temperatures  $\geq 150^\circ$  C. Cure times are dependent on the composition of the formulated product and your particular end application.

Room temperature shelf lives (time to double viscosity) of  $>3$  months can be obtained when  $\leq 1$  phr OMICURE U-24 is used with DGEBA/DICY. Some of the factors which can effect shelf life are formulation ingredients and compounding parameters. Ingredients in which OMICURE U-24 is insoluble at processing and storage temperatures will enhance overall storage stability. OMICURE U-24 can be incorporated into your formulation concurrent with the dicy addition.

### APPLICATIONS

As a latent accelerator in the dicyandiamide cure of epoxy resins used in:

- ☐ Adhesives
- ☐ Powder Coatings
- ☐ Prepregs
- ☐ Encapsulation
- ☐ Reinforcements

### TYPICAL PROPERTIES

Appearance	Clean powder
Color	Off white
Odor	Ammoniacal
Melting Point, °C	180 - 195
Moisture Content, max %	1.0
Particle size, U-24 min. % through a 325 mesh screen	80
Particle size, U-24M (micronized) min. % through a 325 mesh screen	95

### HEALTH & SAFETY PRECAUTIONS

OMICURE U-24 is a fine powder classified as a nuisance dust. It is not a primary skin or eye irritant but will cause respiratory irritation with prolonged dust inhalation.

The use of engineering controls to keep the material confined or convey dust away from the breathing zone is the preferred method of handling. Alternatively, an approved dust respirator and impervious clothing should be worn if the material becomes airborne.

Allowing the dust to settle on vegetation may cause harm and may prevent germination.

Refer to CVC Thermoset Specialties Material Safety Data Sheet on OMICURE U-24 for additional safety and health information. The MSDS is revised as new data becomes available.

### PACKAGING & AVAILABILITY

OMICURE U-24 (unmicronized) and OMICURE U-24M (micronized) come in plastic lined corrugated cardboard boxes (net weight 40 lbs.) and plastic 5 gallon pails. Check with your sales representative for specific designations and particle size specifications.

**Shelf Life and Tg of Omicure U-24  
Accelerated DGEBA/DICY**

<b>FORMULATION, pbw</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
DGEBA*	100----->					
OMICURE DDA-10 (dicyandiamide)	8----->					
Hydrophobic fumed silica	3----->					
Omicure U-24	0	1	3	5	-	-
Monuron	-	-	-	-	5	-
Diuron	-	-	-	-	-	5
<b>Room Temperature Shelf Life</b>						
Time to double viscosity, weeks	>70	13	10	9	16	24
Tg**, °C	140	134	127	117	115	115

\*EEW:182-192, 25°C Viscosity: 11,000-14,000 cps

\*\*Determined on DSC second scan, first scan to 275°C, 20°C per minute

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