

# CYMEL<sup>®</sup> U-662 resin

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## PRODUCT DESCRIPTION

CYMEL U-662 resin is a partially iso-butylated urea crosslinker supplied in a mixture of iso-butanol and xylene. CYMEL U-662 resin has high reactivity and a high tendency for self-condensation providing fast drying films with good gloss, hardness and block resistance. CYMEL U-662 resin is an excellent crosslinker for acid curing wood coating applications where low formaldehyde emission is required.

## BENEFITS

- Fast drying
- Very good block resistance
- Low formaldehyde emission

## APPLICATION AREAS

- Industrial wood coating applications

## PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile by wt.	58-62%	DIN EN ISO 3251 (Pan, 2 hr/120°C)
Viscosity, 25°C	1000 - 2000 mPa·s	DIN EN ISO 3219
Free formaldehyde	≤ 0.3%	Sulfite Titration
Color, APHA	≤ 15	DIN EN ISO 6271

## TYPICAL PROPERTIES (NOT CONTINUALLY DETERMINED)

Property	Range	Method
Specific Gravity, 25°C	1.000 – 1.0195 g/ml	DIN 51757
Density, 25°C	8.3 – 8.5 lbs/gal	ASTM D1475-13

## SOLUBILITY

Alcohols	Complete
Esters	Complete
Ketones	Complete
Aliphatic hydrocarbons	Partial
Aromatic hydrocarbons	Complete
Water	Insoluble

## COMPATIBILITY

Acrylic resins	Medium
Alkyd resins	Good
Polyester resins	Good
Nitrocellulose	Good
Cellulose acetate butyrate	Good
Polyvinyl butyrate	Good

## BACKBONE POLYMER SELECTION

CYMEL U-662 resin is a very effective crosslinking agent for backbone polymer resins containing hydroxyl functional groups, such as alkyd, polyester or acrylic resins. The optimum level of CYMEL U-662 resin in an acid curing wood coating formulation should be in the range of 25-35% on total resin solids. To obtain coatings with optimum resistance properties, addition of a melamine resin, such as CYMEL MB-98 resin or CYMEL 304 resin, at levels of 5-10% on total resin solids is recommended.

## CATALYSIS

CYMEL U-662 resin responds to both weak acids and sulfonic acid catalysts, like CYCAT<sup>®</sup> 4040 catalyst. Generally, 6-10% CYCAT 4040 catalyst on total resin solids of the formulation is sufficient to obtain fast drying behavior at room temperature.

## POT LIFE

To extend catalyzed pot life of the formulation, addition of primary alcohols, such as n-butanol and ethanol, is required at concentrations of 10-25% on total resin solids. Faster evaporating alcohols will improve speed of dry.

## STORAGE STABILITY

CYMEL U-662 resin has a shelf life of 720 days from date of manufacture when stored at temperatures below 32°C. Although low temperatures are not detrimental to stability, the viscosity of the product will increase making the resin more difficult to pump or pour. Product viscosity can be returned to normal by gentle warming, however, care should be taken to avoid excessive localized heating as this can cause polymerization.

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