

CYMEL[®] UI-19-I resin

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PRODUCT DESCRIPTION

CYMEL UI-19-I resin is a partially iso-butylated urea resin supplied in iso-butanol. The fast drying properties provide good block resistance and makes CYMEL UI-19-I resin suitable for ambient and low bake industrial wood finishes.

BENEFITS

- Very fast drying
- Good early handling properties

APPLICATION AREAS

- Industrial wood coatings

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile by wt.	61-65%	DIN EN ISO 3251 (Pan, 1 hr/100°C)
Viscosity, 23°C	8700-16000 mPa·s	DIN EN ISO 3219
Free formaldehyde	< 1.0%	Sulfite Titration
Color, APHA	≤ 50	DIN EN ISO 6271

SOLUBILITY

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

COMPATIBILITY

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

BACKBONE POLYMER SELECTION

CYMEL UI-19-I 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 UI-19-I 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, at levels of 5-10% on total resin solids is recommended.

CATALYSIS

CYMEL UI-19-I resin responds to both weak acids and sulfonic acid catalysts, like CYCAT[®] 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 or ethanol, is required at concentrations of 10-25% on total resin solids. Faster evaporating alcohols will improve speed of dry.

STORAGE STABILITY

CYMEL UI-19-I 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 irreversible viscosity increase.

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