

PRODUCT DESCRIPTION

CYMEL U-610 resin is a partially n-butylated urea crosslinker supplied in a mixture of n-butanol and xylene. CYMEL U-610 resin is suitable for a wide range of industrial stoving applications like metal decorating and coil coating primer formulations.

BENEFITS

- Very fast reaction speed
- Very good adhesion and intercoat adhesion
- High electrostatic resistivity

APPLICATION AREAS

- General industrial stoving finishes
- Primer formulations
- Electrostatic spray applications

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile by wt.	65 - 69%	DIN EN ISO 3251 (Pan, 1hr/100°C)
Viscosity, 25°C	10000-13000 mPa.s	DIN EN ISO 3219
Free formaldehyde Color, APHA	~1.8% < 15	Sulfite Titration DIN EN ISO 6271

SOLUBILITY

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

COMPATIBILITY

Acrylic resins	Medium
Alkyd resins	Good
Epoxy resins	Good
Polyester resins	Good

BACKBONE POLYMER SELECTION

CYMEL U-610 resin is a very effective crosslinking agent for backbone polymer resins containing hydroxyl, carboxyl, and amide functional groups, such as found on alkyd, polyester or acrylic resins. CYMEL U-610 resin is fast reacting and has a high tendency for self-condensation providing films with very good flow, film hardness and excellent adhesion properties on metal substrates. Although the optimum level of CYMEL U-610 resin in a given formulation should be determined experimentally, ratios between 25% and 35%, based on resin solids, are typically most effective in most polymer backbone resins.

CATALYSIS

CYMEL U-610 resin does not need the addition of an acid catalyst to the formulation to obtain effective cure. In many instances, the acidity of the backbone polymer in the formulation is sufficient to catalyze the reaction. If catalyst addition is required, then 0.5% - 1.0% of CYCAT® 4040 catalyst based on total binder solids is recommended for baking schedules of ~125°C for 15 minutes.

FORMULATION STABILITY

The stability of formulated systems containing CYMEL U-610 resin can be enhanced by the addition of alcohols, tertiary amines or a combination of these. Low molecular weight primary alcohols such as methanol and n-butanol are most effective. Recommended amines are triethylamine or dimethylethanolamine at a concentration of 0.5-1.0% on total binder solids.

STORAGE STABILITY

CYMEL U-610 resin has a shelf life of 1080 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 re-warming, however, care should be taken to avoid excessive localized heating as this can cause an irreversible increase in viscosity. The expiration date may be extended and COA updated after QC testing of retained samples, only for material in allnex possession.

SAFETY AND HANDLING

Please consult the Safety Data Sheet for safety, health, and environmental data.