

PRODUCT DESCRIPTION

CYMEL 651 resin is a partially n-butylated melamine crosslinker supplied at 60% solids in a mixture of n-butanol and xylene. CYMEL 651 resin contains a non-silicone flow additive and has been designed for general industrial baking applications where excellent flow and wetting properties are required.

BENEFITS

- Very good flow and wetting properties
- Very good film hardness development

APPLICATION AREAS

- General industrial baking applications

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile by wt.	58-62%	DIN EN ISO 3251 (Pan, 2 hrs/120°C)
Viscosity, 25°C	1000-2000 mPa.s	DIN EN ISO 3219
Free formaldehyde	< 1.0%	Sulfite Titration
Color, APHA	≤ 15	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	Medium
Polyester resins	Medium

BACKBONE POLYMER SELECTION

CYMEL 651 resin is an effective crosslinker for backbone polymer resins containing hydroxyl, carboxyl, and amide functional groups, such as those found on alkyd, polyester or acrylic resins. Although the optimum level of CYMEL 651 resin should be determined experimentally, ratios of 25 to 35% based on resin solids are typically most effective.

CATALYSIS

CYMEL 651 resin may not require 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 under normal baking conditions (15 - 20 minutes at 120 - 150°C). If catalyst addition is required, then 0.5 - 1.0% of CYCAT® 296-9 catalyst based on total resin solids is recommended.

FORMULATION STABILITY

The stability of solvent-borne systems containing CYMEL 651 resin can be enhanced by the addition of primary alcohols, amines, or a combination of these. Low molecular weight primary alcohols such as ethanol and n-butanol are most effective. Recommended amines are TEA or DMEA at a concentration of 0.5 - 1.0% on total binder solids.

STORAGE STABILITY

CYMEL 651 resin has a shelf life of 360 days from the date of manufacture when stored at temperatures below 32°C. Although lower temperatures are not detrimental to stability, its viscosity will increase possibly making the resin difficult to pump or pour. The viscosity will reduce again on warming, but care should be taken to avoid excessive local heat 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 (SDS) for safety, health, and environmental data available from allnex.