All About Resins

TECHNICAL DATA SHEET

Crosslinkers

CYMEL® MB-94 resin

PRODUCT DESCRIPTION

CYMEL MB-94 resin is an n-butylated melamine crosslinker with a high degree of alkylation and very low free formaldehyde. CYMEL MB-94 resin is designed for use in combination with urea resins for acid curing wood finishes to improve chemical resistance and cold check properties while maintaining fast drying properties.

BENEFITS

- Fast cure
- Excellent compatibility
- Excellent chemical resistance properties
- Very low free formaldehyde

APPLICATION AREAS

- Industrial wood finishes

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	Visual
Non-volatile by wt.	94-97%	Foil, 45 min/45°C
Viscosity, 25°C	Y-Z_1	Gardner-Holdt
Free formaldehyde	< 0.1%	Sulfite Method
Color, Gardner	< 1	

SOLUBILITY

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

COMPATIBILITY

Acrylic resins	Good
Alkyd resins	Very good
Polyester resins	Good
Epoxy resins	Good
Nitrocellulose	Fair
Cellulose acetate butyrate	Good
Polyvinyl butyrate	Good

BACKBONE POLYMER SELECTION

CYMEL MB-94 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 MB-94 resin in an acid curing wood coating formulation should be in the range of 25-35% on total resin solids if used as the sole crosslinker. Loadings of 5-10% on total resin solids is recommended when used in combination with a urea resin.

CATALYSIS

CYMEL MB-94 resin responds best to 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 and ethanol, is required at concentrations of 10-25% on total resin solids. Faster evaporating alcohols will improve speed of dry.

STORAGE STABILITY

CYMEL MB-94 resin has a shelf life of 4 years from date of manufacture when stored at temperatures between 5°C and 30°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.