

PRODUCT DESCRIPTION

CYMEL® 250 resin is a new type of methylated/n-butylated, high imino melamine resin supplied in n-butanol. It is designed specifically for automotive coating systems and does not require a strong acid catalyst for fast cure response. CYMEL® 250 resin is similar in reactivity to conventional n-butylated melamine resins, but resulting formulas have lower VOC.

BENEFITS

- Fast low temperature cure response
- Superior humidity and water resistance
- Lower VOC than conventional butylated melamine resins

APPLICATION AREAS

- Automotive primer/surfacer
- Automotive basecoat

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile by wt.	70.5± 2%	Pan, 3 hrs/105°C
Viscosity, 25°C	V-Z1	Gardner Holdtz Method
Free formaldehyde	< 0.65%	BS-EN-1243-2011
Color, Gardner	≤ 1	DIN EN ISO 4630-1

SOLUBILITY

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

COMPATIBILITY

Acrylic resins	Very good
Alkyd resins	Very good
Epoxy resins	Very good
Polyester resins	Very good

BACKBONE POLYMER SELECTION

CYMEL® 250 resin is an efficient cross-linking agent for hydroxyl, amide, carboxyl, functional polymers or resins. Similar to other high imino melamine resins, it not only crosslinks with the above functionalities, but also self-condenses readily. Although the optimum level of CYMEL® 250 resin should be determined experimentally, ratios of 25 to 35% based on resin solids are typically most effective.

CATALYSIS

CYMEL® 250 resin responds to catalysis by weak acids. At baking temperatures above 120°C, the carboxyl functionality of the other resins in a formulation would be an adequate catalyst. If catalyst is necessary, any soluble acid would be effective. Normally, phosphate esters, such as CYCAT® 296-9 at 1.0% on total resin solids, are recommended.

FORMULATION STABILITY

The stability of solvent-borne systems containing CYMEL® 250 resin can be enhanced by the addition of primary alcohols, amines, or a combination of these. Low molecular weight primary alcohols such as ethanol or 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 250 resin has a shelf life of 1 year from the date of manufacture when stored at temperatures between below 30°C packed in unopened original containers. CYMEL 250 resin must be kept indoors and avoided the direct sunlight exposure.

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 experiment date may be extended and COA updated after QC testing of retained samples, only for material in allnex possession.