CYMEL® 202 resin

PRODUCT DESCRIPTION

CYMEL 202 resin is a methylated/n-butylated, high imino melamine crosslinker supplied in n-butanol. Its hydrophobic nature combined with high reactivity, high solids content, and rather low formaldehyde release during the curing process makes CYMEL 202 resin suitable for a wide range of medium to high solids or waterborne baking applications, like can and container coating formulations, automotive coatings, and low cure systems to improve film appearance and resistance properties. CYMEL 202 resin has a high tendency to self-condense at rather low baking temperatures, providing films with very good hardness, gloss, chemical resistance and outdoor durability.

BENEFITS

- Very fast cure response
- Medium to high solids
- Low formaldehyde release

APPLICATION AREAS

- Can and container coatings
- General industrial coatings
- Automotive coatings

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	Visual
Non-volatile by wt.	82 ± 2%	Foil, 45 min/45°C
Non-volatile by wt.	80 ± 2%	Pan, 3 hrs/105°C
Viscosity, 23°C	2500-7500 mPa-s	Dynamic Viscosity
Free formaldehyde	< 0.6%	Sulfite Method
Color, APHA	< 70	ISO 6271

SOLUBILITY

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

COMPATIBILITY

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

BACKBONE POLYMER SELECTION

CYMEL 202 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 202 resin should be determined experimentally, ratios of 25 to 35% based on resin solids are typically most effective.

CATALYSIS

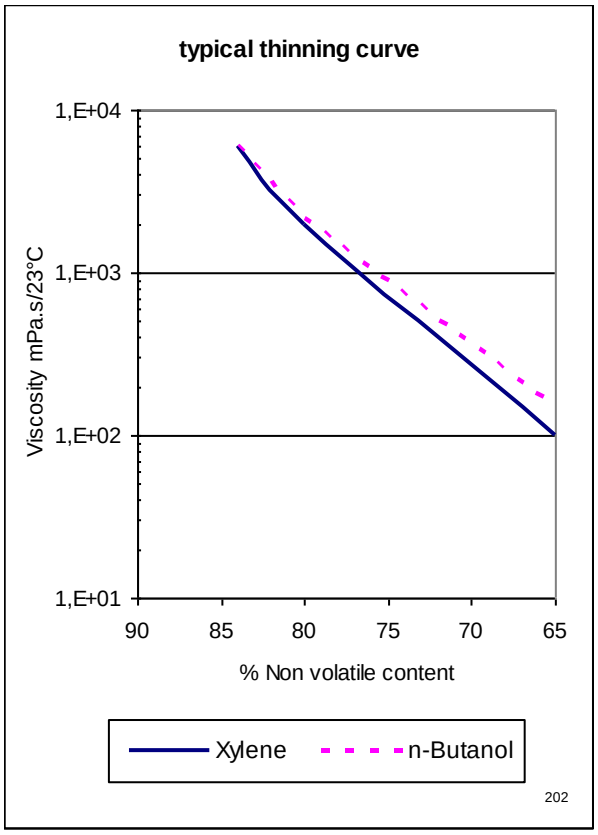
CYMEL 202 resin resin may not require the addition of an acid catalyst to the formulation to obtain effective cure. In many instances, the acidity of the backbone polymer in the formulation is sufficient to catalyze the reaction under normal baking conditions (15-20 minutes at 120-150°C). If catalyst 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 202 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, DMEA or 2-AMP at a concentration of 0.5-1.0% on total binder solids. For best stability in waterborne systems, a pH of 7.5-8.5 should be maintained using tertiary amines only.

STORAGE STABILITY

CYMEL 202 resin has a shelf life of 2 years from the date of manufacture when stored at temperatures between 5°C and 30°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.



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