

CYMEL® 27-804

Technical Datasheet

PRODUCT DESCRIPTION

CYMEL 27-804 resin is a partially n-butylated melamine crosslinking agent supplied in n-butanol. CYMEL 27-804 resin has been designed for a wide range of industrial bake applications, like automotive finishes, metal decorating, and drum coating formulations, providing films with very good flow, gloss, hardness adhesion, exterior durability and chemical resistance.

BENEFITS

- Fast curing speed
- Provides films with good resistance properties
- · Provides films with high gloss and film hardness

APPLICATION AREAS

- General industrial bake finishes
- Metal decorating formulations

PHYSICAL PROPERTIES

Property	Range	Method
Appearance	Clear Liquid	ASTM E284
Non-volatile by wt.	48 - 52%	DIN EN ISO 3251 (Pan, 90'/105°C)
Viscosity, 25°C	H - L	ASTM D1545 (Gardner- Holdt)
Free formaldehyde	≤ 1.0%	Sulfite Titration
Color, Gardner Acid Number	≤ 1 4 - 6 mg KOH/g	ASTM D1544-04 DIN EN ISO 2114

TYPICAL PROPERTIES

(NOT CONTINUALLY DETERMINED)				
Property	Range	Method		
Density, 25°C	0.9800 – 1.004 g/ml	ASTM D1475-13		

SOLUBILITY

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

COMPATIBILITY

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

BACKBONE POLYMER SELECTION

CYMEL 27-804 resin is a very effective crosslinking agent for backbone polymer resins containing hydroxyl, amide, and carboxyl functional groups, such as found on alkyd, polyester or acrylic resins. In addition to crosslinking, CYMEL 27-804 resin has a high tendency for self-condensation. Although the optimum level of CYMEL 27-804 resin in a given formulation should be determined experimentally, ratios between 25% and 35% based on resin solids are typically most effective.

CATALYSIS

CYMEL 27-804 resin does not require the addition of an acid catalyst to the formulation to obtain effective cure at normal baking conditions. The acidity of the primary film former is usually sufficient to initiate the curing process. The cure can be additionally catalyzed by weak organic or inorganic acids, such as CYCAT[®] 296-9 catalyst, which has proved to be very effective for these systems. Recommended levels are 1.0 - 2.0% on total resin solids for baking schedules of 110°C - 150°C for 15 to 20 minutes.

FORMULATION STABILITY

The stability of formulations containing CYMEL 27-804 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 nbutanol are most effective. Recommended amines are triethylamine or dimethylethanolamine at a concentration of 0.5 - 1.0% on total binder solids.

STORAGE STABILITY

CYMEL 27-804 resin has a shelf life of 180 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.

2.0 / 28.05.2020 (replaces all previous versions)

Worldwide Contact Info: www.allnex.com

Page 1/1

Disclaimer: allnex Group companies ('allnex') exclude all liability with respect to the use made by anyone of the information contained herein. The information contained herein represents allnex's best knowledge but does not constitute any express or implied guarantee or warranty as to the accuracy, the completeness or relevance of the data set out herein. Nothing contained herein shall be construed as conferring any license or right under any patent or other intellectual property rights of allnex or of any third party. The information relevance of the products is given for information is suitable for any specific use, performance or result. Any unauthorized use of the product or information may infringe the intellectual property rights of allnex, including its patent rights. The user should perform his/her own tests to determine the suitability for a particular purpose. The final choice of use of a product and/or information as well as the investigation of any possible violation of intellectual property rights or misappropriation of trade secrets of allnex and/or third parties remain the sole responsibility of the user. Notice: Trademarks indicated with *, TM or * as well as the allnex name and logo are registered, unregistered or pending trademarks of Allnex Netherlands B.V. or its directly or indirectly affiliated allnex Group companies. ©2020 allnex Group. All Rights Reserved.