

# Synthetic Resin CA

43.13.070e / 11.06

## General Description

Synthetic Resin CA is neutral, unsaponifiable ketone-aldehyde condensation resin of exceptional lightness in colour and lightfastness. Its wide compatibility and good solubility cause it to be used in the most diverse coating systems to enhance drying properties, hardness, gloss and adhesion as well as to increase the solids content.

## Specification

Property	Value	Unit	Test method
Melting point	95 - 108	°C	DIN EN ISO 3146
Colour (Gardner)	0 - 2	-	DIN EN ISO 4630
<b>50 % in butyl acetate/ n-butanol = 85/15</b>			

## Typical data

Density at 20°C	1.13 – 1.14	g/cm <sup>3</sup>	DIN EN ISO 1183
Acid number	≤ 1	mg KOH/g	DIN EN ISO 2114
Hydroxyl number	approx. 200	mg KOH/g	DIN 53 240, modified* ASTM E 222, modified*
Water content	max. 4	% by wt.	DIN 51 777, part 1
Tg	approx. 75	°C	DIN 53 765

\* Fresenius, Z. Anal. Chem. (1985) 320, 683

## Chemical Classification

Ketone-aldehyde condensation resin

## Supply Form

Gritty, white powder

## Storage Stability and Packaging

Paper bags, 25 kg net wt.

Synthetic Resin CA has a shelf-life of at least 1 year providing it is stored at temperatures below 25 °C with exclusion of light and dampness.

## **Solubility**

Synthetic Resin CA is soluble in all solvents commonly used in the paint industry with the exception of aliphatic hydrocarbons and water.

Due to production process Synthetic Resin CA has a water content of 2 - 3 % so that its solutions, particularly those in aromatics and esters, may tend to be cloudy. This can be prevented by addition of small amounts of alcohols such as ethanol or butanol.

## **Application**

By virtue of its good solubility, hardness, fast drying and high lightfastness, Synthetic Resin CA, particularly in combination with nitrocellulose, is suitable for the manufacture of clear and pigmented wood lacquers and rapid sanding wood primers.

In combination with nitrocellulose, alkyd, maleic or rosin resins, Synthetic Resin CA may be used in printing inks where it frequently contributes to an enhancement of gloss and adhesion while simultaneously increasing the solids content.

By using Synthetic Resin CA in nitrocellulose based metal lacquers, its use can raise the solids content and improve gloss and adhesion. Applications include both top coats and primers for machine and repair paints.

By also including Synthetic Resin CA in nitrocellulose or cellulose acetobutyrate-based paper lacquers for printed products, the resulting coatings are fast drying, water-white, have high gloss and outstanding flexibility while also displaying high scour and abrasion resistance.

Synthetic Resin CA is also ideally suited for use in nitrocellulose adhesives for bonding of textiles, leather, paper and similar substances.

Owing to the high reactivity of its OH groups with isocyanates, Synthetic Resin CA can also be used in PU systems provided due account is taken of the residual moisture content.

## **Food Contact**

Actual information regarding national and international regulation for the use of Synthetic Resin CA in food packaging is available on request.

## **Compatibility**

In order to test the compatibility of Synthetic Resin CA with binders, corresponding solutions were mixed in such a way that 20 and 40 % of synthetic resin, based on the respective binder, were added.

After application to glass and drying, the dry films were assessed for appearance. Individual data are shown in the following table.

<b>Binders</b>	<b>Compatibility with Synthetic resin CA</b>	<b>Binders</b>	<b>Compatibility with Synthetic resin CA</b>
Acrylic resins	±	Polyester resins, saturated	+
Urethane acrylic resins	+	Zinc resinsates	+
Alkyd resins	+	Ketone resins	+
Styrenated alkyd resins	+	Aldehyde resins	+
Melamine resins	+	Hydrocarbon resins	-
Maleic resins	+	Calcium resinsates	±
Resols, non plasticised	+	VC copolymers	+
Phenolic resins, modified	+		

+ = compatible

± = limited combability, in some cases slight film haze

- = incompatible

## Safety and Handling

Please refer to our Safety Data Sheet.

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