

Synthetic Resin TC

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General Description

Synthetic Resin TC is a special ketone-aldehyde condensation resin used as a carrier resin for pigment concentrates due to its universal solubility and compatibility and excellent pigment wetting.

In addition, it is suitable as an additive resin for improving certain properties such as hardness, gloss and adhesion, and increasing the solids content in a wide variety of coating systems.

Specification

Property	Value	Unit	Test method
Melting point	74 - 90	°C	DIN EN ISO 4625-1
Color (Gardner) (50% solution in ethyl acetate)	≤ 3	-	DIN EN ISO 4630

Typical data

Density at 20 °C	1.07	g/cm ³	DIN EN ISO 1183
Acid number	≤ 1	mg KOH/g	DIN EN ISO 2114
Hydroxyl number	approx. 10	mg KOH/g	DIN 53 240 modified* ASTM E 222 modified*
Tg	approx. 40	°C	DIN 53 765

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

Chemical Classification

Special ketone-aldehyde condensation resin

Supply Form

Pellets

Food contact

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

Storage Stability and Packaging

Synthetic Resin TC has a shelf life of at least one year at below 25 °C in the absence of light and moisture.

25 kg paper sacks (NAFTA: 55.12 pounds).

Compatibility

In order to test the compatibility of Synthetic Resin TC 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.

Binders	Compatibility with TC	Binders	Compatibility with TC
Acrylate resins		Glycerol resin esters	+
- methacrylates	+	Urea resins	+
- acrylic copolymers	+	Ketone resins	+
- OH acrylates	+	Colophony resin esters	+
- PU acrylates, radiation curing	±	Hydrocarbon resins	+
Aldehyde resins	+	Maleate resins	+
Alkyd resins		Malamine resins	+
- short-oil	+	Nitrocellulose resins	+
- medium-oil	+	Phenolic resins, mod.	+
- long-oil	+	Phthalate resins	+
CAB	+	Polyester resins, saturated	+
Calcium resinsates	+	Polyester resins, unsaturated	+
CAP	+	Resols, unplasticized	+
Carbamic acid resins	+	VC copolymers	+
Cyclorubber	+	Zinc resinsates	+
Epoxy resins	+		

+ = compatible, clear film

± = limited compatibility, in some cases slight film haze

Applications

In addition to the typical applications of hard resins in, for example, wood paints, printing inks, metal paints, paper lacquers and adhesives, Synthetic Resin TC is particularly suitable as a binder for the preparation of pigment pastes.

Due to its universal solubility and compatibility, its good pigment-wetting properties, gloss and drying and its low solution viscosity, pigment preparations with a high pigment content and high colour intensity can be prepared for a wide variety of applications.

A very effective polymer dispersing aid for those pigment preparations is e.g. SER-AD[®] FX 9085.

Guide formulations for pigment concentrates based on Synthetic Resin TC are available on request.

Safety and Handling

Please refer to our Material Safety Data Sheet.

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