Synthetic Resin SK

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General Description

Synthetic Resin SK is a neutral, unsaponifiable, special polyol resin which is soluble in ethanol, lightfast and very light in colour. It is generally used in combination with other binders.

Specification

Property	Value	Unit	Test method
Softening range	110 – 120	°C	DIN 53 181
Colour (Gardner)	0 - 1	-	DIN EN ISO 4630

Typical data

Density at 20 °C	1.15	g/cm^3	DIN EN ISO 1183
Hydroxyl number	approx. 325	mg KOH/g	DIN 53 240 modified* ASTM E 222 modified*
Acid number	≤ 1	mg KOH/g	DIN EN ISO 2114
Tg	approx. 90	°C	DIN 53 765

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

Chemical Classification

Polyol resin

Storage Stability and Packaging

When protected against light and humidity and at storage temperatures of less than 25 °C, Synthetic Resin SK can be stored for at least 1 year.

Paper bags, net contents: 25 kg.

Supply Form

Pellets

Food Contact

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

Solubility

Synthetic Resin SK is soluble in all solvents com-monly used in the paint industry with the exception of aliphatic hydrocarbons and aromatics.

Compatibility

In order to test the compatibility of Synthetic Resin SK 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 Synthetic SK	Binders	Compatibility with Synthetic SK
Acrylic resins	+	Polyester resins, saturated	+
Urethane acrylic resins	+	Zinc resinates	±
Alkyd resins	±	Ketone resins	+
Styrenated alkyd resins	±	Aldehyde resins	+
Melamine resins	+	Hydrocarbon resins	-
Maleic resins	+	Calcium resinates	-
Resols, non plasticised	+	VC copolymers	-
Phenolic resins, modified	-		

+ = compatible
± = limited combability, in some cases slight film haze
- = incompatible

Applications

Synthetic Resin SK can be used for the manufacture of all types of nitrocellulose lacquers. Further special applications result from its compatibility with oil modified alkyds and with urea formaldehyde and phenol formaldehyde condensation resins. When Synthetic Resin SK is used in such systems, it frequently improves the adhesion and gloss.

When it is used in paper laquers, its lightness and lightfastness, neutrality and unsaponifiability are an advantage.

Its solubility in spirit and its hardness are useful in the manufacture of polishes, polishing lacquers and finishes for the surface treatment of wood.

Suitably formulated combinations of Synthetic Resin SK with nitrocellulose, phthalate plasticizers and alkyd resins are characterized by high elasticity and the good resistance shown in the Cold-Check Test. Additions of Synthetic Resin SK to stoving finishes improve the initial physical drying process of the lacquers.

The good solubility in ethanol and the high softening point of Synthetic Resin SK make it particularly suitable for use in gravure and flexographic printing inks. It is highly effective in imparting gloss, increasing the solids content and enhancing adhesion.

Because of its high hydroxyl number, Synthetic Resin SK forms strong hydrogen bonds which are responsible for the excellent thickening effect in ball-point pen pastes and inks. This achieves the object of ensuring that pastes and inks in writing instru-ments do not dry out, yet set quickly after writing.

The heat stability of Synthetic Resin SK enables it to be used in hot melt compounds containing cellulose acetobutyrate, where its presence controls the melt viscosity and the hardness of the cooled mass. Such hot melts are used to protect tools and machine parts.

Synthetic Resin SK is used in dry cleaning to make fabrics water-repellent.

Other fields of application may be deduced from the resin's property spectrum.

Safety and Handling

Please refer to our Safety Data Sheet.

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