

Synthetic Resin AP

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General Description

Synthetic Resin AP is a neutral, unsaponifiable ketone-aldehyde condensation resin. It is generally used in combination with other binders. On account of its wide compatibility and its efficiency, it is used to improve gloss, solids content and covering capacity in the most diverse paint systems.

Specification

Property	Value	Unit	Test method
Softening range	88 - 102	°C	DIN EN ISO 4625-1
Colour (Gardner) 50 % solution in ethyl acetate	≤ 3	-	DIN EN ISO 4630

Typical data

Density at 20°C	1.19	g/cm ³	DIN EN ISO 1183
Acid number	≤ 1	mg KOH/g	DIN EN ISO 2114
Hydroxyl number	approx. 5	mg KOH/g	DIN 53 240 modified* ASTM E 222 modified*
Tg	approx. 50	°C	DIN 53 765

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

Chemical Classification

Ketone-aldehyde condensation resin

Supply Form

Pellets

Food Contact

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

Storage Stability and Packaging

Paper bags, net contents: 25 kg.

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

Compatibility

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

+ = compatible

± = limited compatibility, in some cases slight film haze

- = incompatible

Solubility

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

Applications

Synthetic Resin AP is suitable for the manufacture of clear and pigmented nitrocellulose wood and metal finishes.

Because of its favourable price and the low colour number, Synthetic Resin AP forms a good base for the manufacture of bright clear lacquers as well as white enamels. These lacquers are generally characterized by good adhesion.

Synthetic Resin AP improves the pigment loading capacity of nitrocellulose lacquers so that even at high pigmentation an excellent gloss can still be achieved. In wood primers, Synthetic Resin AP nitrocellulose combination lacquers containing 30 % (calculated on the basis of Synthetic Resin AP) of a maleic resin, coconut oil or ground-nut oil alkyd resin, or a fatty acid alkyd resin, are found to have a rapid solvent release and consequently can already be sanded after a short period of time.

Due to its insolubility in aliphatic hydrocarbons, Synthetic Resin AP is suitable for the manufacture of finishes which have to be resistant to mineral oil. For the same reason, polishes containing white spirit may also be used on corresponding nitrocellulose polishing lacquers.

The unsaponifiability of Synthetic Resin AP is an advantage when it is incorporated into weather-resistant exterior paints based on chlorinated rubber and various vinyl chloride copolymers (e.g. Vilit[®]).

Good weathering resistance is achieved by combining Synthetic Resin AP with nitrocellulose, plasticizers and suitable alkyd resins. However, ordinary nitrocellulose lacquers containing Synthetic Resin AP are not suitable for outdoor exposure.

Synthetic Resin AP acts as a hard resin in combination with soft resins and polychloroprene for the manufacture of adhesives.

When Synthetic Resin is added to vinyl chloride copolymer paints, it improves the gloss of the finishes. Incorporated into road marking paints, Synthetic Resin AP increases the solids content and improves the processibility of the paint.

Safety and Handling

Please refer to our Safety Data Sheet.

Evonik Degussa GmbH

Coatings & Colorants
Paul-Baumann-Str. 1
45764 Marl, Germany
phone: +49-2365-49-02
fax: +49-2365-49-5030

Evonik Degussa Corporation

Coatings & Colorants
379 Interpace Parkway
Parsippany, NJ 07054-0677
phone: +1-973-541-8462
fax: +1-973-541-8460

www.coatings-colorants.com

www.smart-formulating.com

e-mail: co@Evonik.com

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Vilit[®] = registered trademark of Degussa AG

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