

TYPE

Air-drying alkyd resin

FORM OF DELIVERY (f.o.d.)

70 % in solvent naphtha 150/180 (70SNA)
(containing also 4 % xylene)

SPECIAL PROPERTIES AND USE

Excellent pigment wetting. Superior compatibility characteristics with almost any paint raw material. Vialkyd AM 318 is a special binder for tinting pastes for paints, such as:

Air-drying and stoving alkyd resin paints, thermosetting and crosslinking acrylic paints, two-component alkyd or acrylic isocyanate finishes, nitrocellulose lacquers, acid curing enamels, acrylic wall paints.

CONTENT OF FATTY ACIDS

approx. 31 % special fatty acids (as triglycerides)

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219

dynamic viscosity	[mPa.s]	120 - 300
60 % solvent naphtha 150/180 (25 l/s; 23 °C)		

Iodine Colour Number DIN 6162

iodine colour number		<= 15
50 % solvent naphtha 150/180		

Acid Value DIN EN ISO 2114

acid value	[mg KOH/g]	<= 20
(nFA)		

Non-Volatile Matter DIN 55671

non-volatile matter	[%]	68 - 72
(120 °C; 5 min)		

Not continually determined:

Non-Volatile Matter DIN EN ISO 3251

non-volatile matter	[%]	68 - 72
(1 h; 125 °C; 1 g)		

Density (Liquids) DIN EN ISO 2811-2

density	[g/cm ³]	1,10
approx. (20 °C)		

Flash Point DIN EN ISO 1523

flash point	[°C]	36
approx.		

COMPATIBILITY

% Vialkyd AM 318	05	10	50
% other binder	95	90	50

Alkyd resins

Vialkyd AM 342, AM 404, AF 474	●	●	●
Vialkyd AM 524, AL 633, AS 673m, AF 724	●	●	●
Vialkyd AN 904, AC 322, AS 284, AR 340	●	●	●
Vialkyd AF 414, AR 427, AT 653tix, AS 533tix	●	●	●

Epoxy resin esters

Duroxyn EF 900, EF 935	●	●	●
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Acrylic resins

Viacryl SC 420, Macrynal SM 564	●	●	●
Viacryl SC 154	○	○	○

Other binders

Desmodur N, Desmodur L	●	●	●
nitrocellulose, e. g. 24 E, 9 E	●	●	●
CAB-551-0.2	●	●	●
Beckopox EP 304	●	●	●

● = definite compatibility ○ = very limited or no compatibility

Producer:

Desmodur N, L (Covestro)
CAB-551-0.2 (Eastman)

SUGGESTED USES

Vialkyd AM 318/70SNA has been designed as a mill base resin for grinding organic and inorganic pigments to obtain universal tinting pastes. It exhibits outstanding pigment wetting capacity. The tinting pastes are universal purpose pastes, since Vialkyd AM 318/70SNA is compatible with almost any paint raw material. Up to 8 % of Vialkyd AM 318/70SNA coming from the paste can be coemployed without influencing the basic performance of the tinted paint systems. The tinting paste also enhances gloss and levelling of most systems. Vialkyd AM 318/70SNA on curing is fully integrated into the film forming binders, such as oxidatively drying resins, stoving systems and two-component systems. This way there is no adverse influence on the resistance of the paint films.

DILUTABILITY

white spirit	⊙	ethyl acetate, butyl acetate	●
toluene	●	acetone	●
xylene	●	methyl isobutyl ketone	●
Shellsol A, Shellsol AB	●	methoxypropanol	●
ethanol	⊙	butyl glycol	●
butanol	●	ethyl diglycol	●
sec. butanol	●	butyl diglycol	●
turpentine oil	●	dipentene	●
isopropanol	○	water emulsion	●

● = unlimited dilutability ⊙ = limited dilutability
 ○ = substantial dilutability ○ = very limited or no dilutability

PREPARATION AND PROCESSING OF TINTING PASTES ON VIALKYD AM 318/70SNA

Tinting Pastes

Vialkyd AM 318/70SNA tinting pastes are suitable only for toning a basic paint.

Basic paints are finished paint systems.

1. Air-drying and stoving alkyd resin paints.
2. Thermosetting and crosslinking acrylic paints.
3. Two-component alkyd or acrylic isocyanate finishes.
4. Nitrocellulose lacquers.
5. Acid curing enamels.
6. Acrylic wall paints.

Compatibility

Vialkyd AM 318/70SNA should be compatible to a substantial extent with the binder in order to prevent pigment floating and gloss reduction.

Blending

Tinting pastes based on Vialkyd AM 318/70SNA have to be blended carefully with the basic pigments in the mixer.

Dosage

A maximum of 1 parts by weight of tinting paste on 9 parts by weight of basic paint should be employed.

Storage of tinting pastes

Tinting pastes should be stored in closed containers in order to prevent loss of solvents and thickening. In case of inadequate storage of the pastes, exact tones at tinting cannot be guaranteed.

Pigments

Pigments can be selected at random with the restriction that they should be light-fast and weather-proof, since the level of the pastes is very low and thus the ultimate quantity of the pigments in the paints is very little. For top quality paints only first grade pigments should be employed. Light fastness at least 7 with colour strength III.

Weather proofness at least 3-4 with colour strength III. Colour intensity III, defined in "Hoechst 4015, chapter 1.8 - Organic pigments for the paints industry", Hoechst Aktiengesellschaft.

Formulation of mill base

The quantities of pigments regarding organic pigments can be estimated for the various mill types from "Technischer Rat Hoechst, Nr. 29". The quantities of inorganic pigments can be determined by means of the smear and flow paint according to "Daniel".

Milling facilities

In general all milling units used in the paint industry are suitable. The most favourable mill for pastes on Viacryl AM 318/70SNA is the pearl mill, since the pastes flow and can be pumped. Viscosity of the paste (measured with the high-shear viscosimeter):

organic pigments: ca. 50 - 200 mPa.s

inorganic pigments: ca. 150 - 500 mPa.s

Additives

Recommended additives:

Additol XL 109/50LG (antiskinning agent), dose: 0.2 - 1 % on paste

Additol XL 204 (wetting and antifoaming agent), dose: 2 - 5 % on paste

Additol XL 270 (wetting and antisetling agent), dose: 1 - 2 % on paste

The quantities of the additives depend on the type and quantity of the pigments. The optimum doses should be determined by preliminary tests.

General mark

Well balanced and carefully stored tinting pastes on Vialkyd AM 318/70SNA (resin + solvent + pigment + additives) can be kept for long time without losing their flow properties. Cream-like floating of resin and solvent can be stirred back into the paste.

STORAGE

At temperatures up to 25 °C storage stability packed in original containers amounts to at least 730 days.

If the resin is stored at low temperatures, clouding is possible. By warming up or stirring, the resin becomes clear again. However the cloudy resin does not influence the quality of the produced tinting pastes.

DISTINGUISHING FEATURES

Compared to Vialkyd AC 290, Vialkyd AM 318/70SNA is better compatible to air-drying alkyd resins, epoxy resin esters and water dilutable resins based on alkyds, acrylics or amino resins. With Vialkyd AC 290 full-shade paints can be produced, but Vialkyd AM 318/70SNA is only used for tinting of full-shade paints.