

TYPE

Long-oil drying alkyd resin

Dehydrated castor oil type

FORM OF DELIVERY (f.o.d.)

100 %

SPECIAL PROPERTIES AND USE

Excellent through drying properties.

Anticorrosion paints, marine paints.
Combinations with cyclized rubber e.g. Alpex CK 450.
Architectural paints, do-it-yourself paints.

RESIN COMPOSITION

(approx.)

66 % oil

23 % phthalic anhydride

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219

dynamic viscosity	[mPa.s]	230 - 310
50 % white spirit		
(25 1/s; 23 °C)		

Iodine Colour Number DIN 6162

iodine colour number	<= 7
50 % white spirit	

Acid Value DIN EN ISO 2114

acid value	[mg KOH/g]	< 10
(nfA)		

Non-Volatile Matter DIN 55671

non-volatile matter	[%]	98 - 100
(120 °C; 5 min)		

Not continually determined:

Non-Volatile Matter DIN EN ISO 3251

non-volatile matter	[%]	98 - 100
(1 h; 125 °C; 1 g)		

Density (Liquids) DIN EN ISO 2811-2

density	[g/cm ³]	1,06
approx.		
(20 °C)		

Flash Point (Pensky-Martens) DIN EN ISO 2719

flash point	[°C]	> 100
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DILUTABILITY

white spirit	●	butyl acetate	●
special white spirit 100/140	●	ethyl acetate	●
turpentine oil	●	methoxypropyl acetate	●
xylene	●	methoxypropanol	●
solvent naphtha 150/180	●	ethanol	○
acetone	●	butanol	●
methyl ethyl ketone	●		

● = unlimited dilutability
● = substantial dilutability

⊙ = limited dilutability
○ = very limited or no dilutability

COMPATIBILITY

% Vialkyd AR 680	90	75	50	25	10
% other binder	10	25	50	75	90

Drying oils (cold mixture)

paint linseed oil	●	●	●	●	●
linseed oil stand oil 30 dPa.s	●	●	●	○	○
linseed oil stand oil 60 dPa.s	●	○	○	○	○

Alkyd resin

Vialkyd AL 520, AF 641	●	●	●	●	●
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Other binders

Alpex CK 450	●	●	●	●	●
nitrocellulose 24 E	●	●	○	○	○

● = definite compatibility

○ = very limited or no compatibility

SUGGESTED USES

Vialkyd AR 680 is used as sole binder or in combination with drying long oil alkyd resins and cyclized rubber.

Combinations with cyclized rubber

In view of its wide compatibility it is preferably used as plasticizer and at the same time as cross-linking component together with cyclized rubber, e. g. Alpex CK 450. The various combination possibilities can be seen in the following formulation guide (on solids):

Group	1	2	3
Alpex CK 450	54	36	24
non-saponifiable plasticizer	36	24	16
Vialkyd AR 680	10	40	60

For limited chemical resistant systems, mixtures based on Group 1 and 2 are recommended. For exterior use in corrosive atmosphere e. g. under industrial or coastal conditions systems based on Group 3 are recommended.

Architectural paints and paints for the do-it-yourself sector, marine and corrosion protection

Coatings based on Vialkyd AR 680 show with relatively slow initial drying good brushability, flow and through drying. Cured films show excellent ageing resistance, meaning long-term flexibility and high yellowing and weather resistance. The use of 10 - 30 % Vialkyd AR 680 in paints based on long-oil linseed oil alkyd resins improves the through drying of the film as well as the water resistance and outdoor durability.

The use of under 10 % of an rosin based resin, on solids, will accelerate initial drying without impairing outdoor durability.

PROCESSING

Cooking with stand oils

The recommended procedure is to heat Vialkyd AR 680 with stand oil in a ratio of 3 : 1 to 240 - 260 °C. After the mixture has cooked until clear, the remaining oil is gradually added and cooked until the total mixture is clear.

Pigmentation

Vialkyd AR 680 is fully compatible with the standard pigments, including zinc white. The high pigment loading capacity of the resin allows the formulation of highly pigmented coatings with good hiding power and gloss.

Driers

Combinations of cobalt, barium, zirconium and calcium driers have shown good results.

Prevention of skin formation

To prevent skin formation on storage it is recommended to add 1.5 % Additol XL 297 on alkyd resin solids.

STORAGE

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

DISTINGUISHING FEATURES

Compared to other alkyd resins Vialkyd AR 680 shows excellent through drying and water resistance. Additionally Vialkyd AR 680 is especially suitable to be combined with Alpex CK 450.