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your competent partner for procurement of raw materials

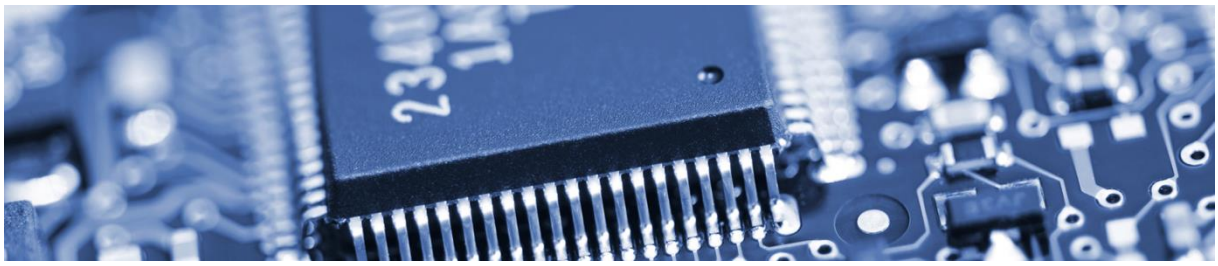
WATER-BORNE technology
VARANOVA
PRODUCTS WITH PRESPECTIVE

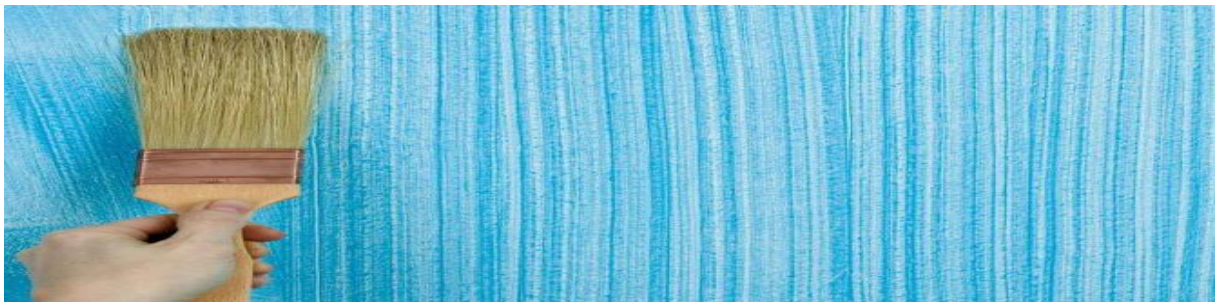
POLYMER INNOVATIONS
ALKYD & EPOXY ESTER

TECHNOLOGIES FOR A SECURE FUTURE

THE RIGHT RESIN AND ADDITIVE FOR YOUR PROJECT

Wie are manufacturer of modern binders and additives for extreme demands.





Our solutions and services stand for quality and innovation.

B as in Binders. Their mission: to form a cohesive whole. As soon as our binders get to work, there is no escape in the truest sense of the word for the other substances involved in your paints, coatings or adhesives. Binders are therefore one of the most important building blocks for your end products.

Our binders not only cover a wide variety of applications areas, but they also offer great potential for more sustainable chemistry. We are already producing many binders on the basis of renewable raw materials. Indeed, we continually work to keep moving in this direction.

HIGH QUALITY WOOD COATING TECHNOLOGIES

Our premium line of WATER-BORNE ALKYD COATING RESINS, delivers the desired flow and leveling characteristics of oil-based paint, with the added benefit of an easy soap and water cleanup. Plus, our industry-changing zero-VOC colorant system means that even the darkest tints still have low levels of VOCs.

Wie are manufacturer of modern binders and additives for extreme demands

OUR COATINGS TECHNOLOGIES

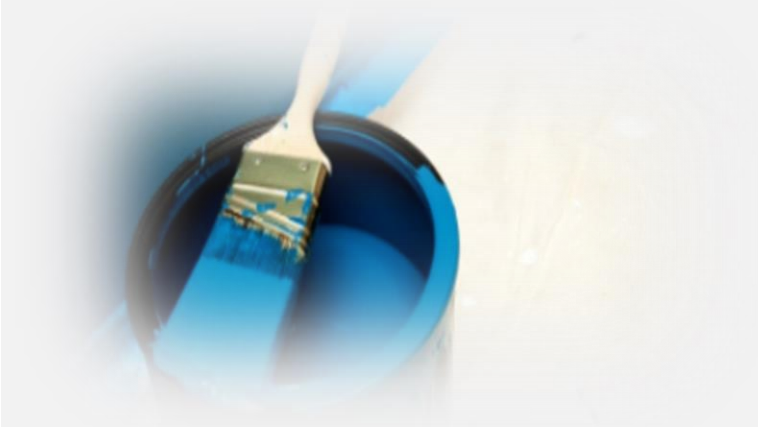
We have a wide range of resin technologies that when formulated into coatings provide an optimal performance and durability. To meet and surpass environmental regulations we continuously develop sustainable water-borne and bio-based resins that meet the coating needs of today and tomorrow.

Our solutions and services stand for quality and innovation

ALKYD RESIN

High Quality Alkyd Resin

ALKYD solvent-borne & solvent-free
ALKYD urethane modified
ALKYD silicone modified
ALKYD styrene modified
ALKYD epoxy modified
ALKYD acrylic modified
ALKYD phenolic modofied
ALKYD water-borne & modified
ALKYD thixotropic
ALKYD UV-curable
ALKYD urethane dispersion
ALKYD silane modified, polyurethane
ALKYD bio-based green polymer



VARALAC; Alkyd resins, solvent-based, short-oil, air-drying

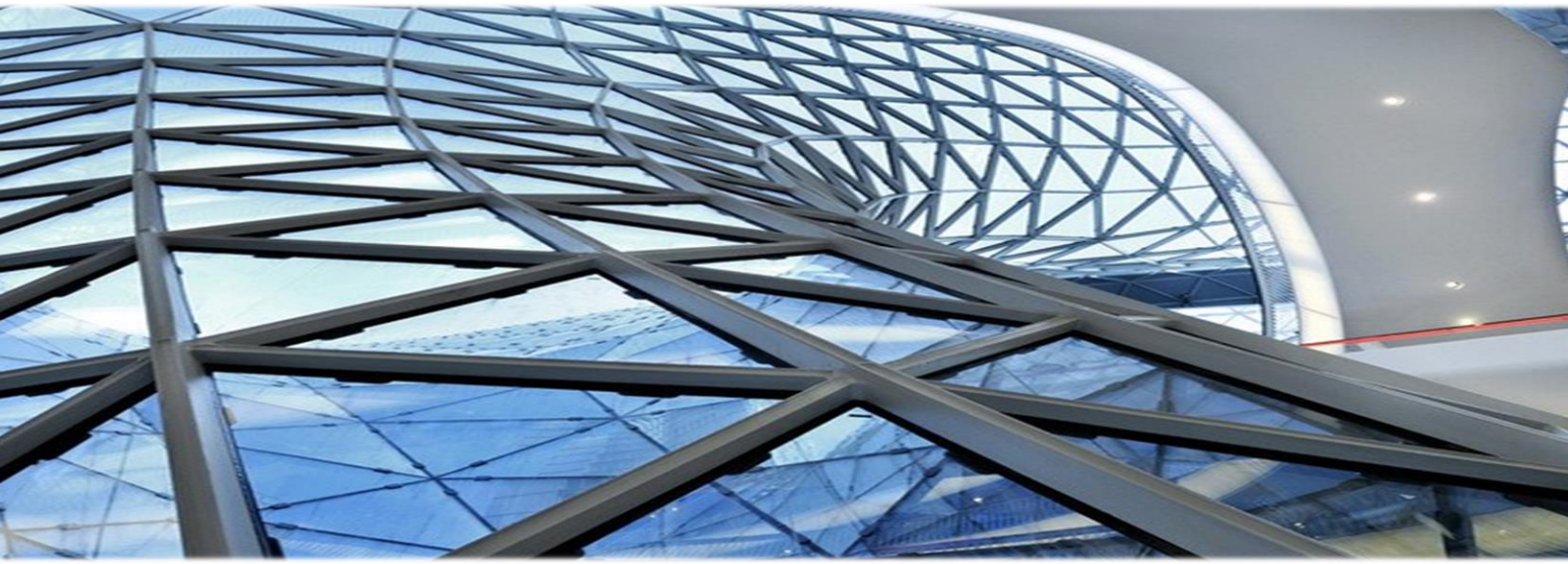
Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
AC 3550	25	Drying vegetable fatty acids	17	max. 5	max. 10	150 – 210 (50% in ws 135-175)	60 in ws 135-175	Acrylic mod. alkyd for fast drying primers and top coats.
AC 3551	25	Drying vegetable fatty acids	17	max. 5	max. 10	90 -150 (50% in xylene)	60 in xylene	Acrylic mod. alkyd for fast drying primers and top coats.
AC 3943	29	Drying vegetable fatty acids	19	max. 5	max. 12	30 – 60 (50% in xylene)	75 in xylene	Acrylic modi. alkyd for fast drying low VOC primers, outstanding broad adhesion on different substrates, good corrosion protective properties.
AC 3209	28	Drying vegetable fatty acids	18	max. 5	max. 8	7.000–8.000 mPa.s	65 in xylene	Acrylic modi. alkyd for fast drying low VOC primers, white top coats.
LH 3702	38	Linseed / tung oil	25	max. 15	max. 20	90-130 (40% in dearom. HC 160-200)	50 in HC 160-200	Dearomatic base- and top coats, air drying.
MH 3338	39	Mixed fatty acids / tung oil	38	max. 15	max. 25	140 – 170 (50% in xylene)	60 in xylene	Primers and top coats, good elasticity and resistance properties.
MH 3342	42	Drying vegetable atty acids	24	max. 15	max. 20	120 – 150 (50% in ws 135-175)	60 in dearom. 135-175	Primers and top coats, ``Laroflex´´ (BASF) compatibility.
S 3001	40	Soya fattay acids	27	max 5	max. 15	4.000–8.000 mPa.s	60 in xylene	Very fast drying alkyd resin for airdrying primers and top coats.
S 3003	30	Drying vegetable fatty acids	35	max. 10	max. 12	20 – 35 (50% in xylene/MPA)	75 in xylene/ MPA	Low viscous, fast drying alkyd resin for manufacturing low VOC industrial primers and top coats.
SM 3340	40	Drying vegetable fatty acids	30	max. 10	max. 20	130 – 170 (50% in xylene)	60 in xylene	Fast drying primers and top coats, good elasticity, good resistance properties.
SM 3400	34	Drying vegetable fatty acids	30	max. 10	max. 20	90 – 110 (50% xylene)	60 in xylene	Fast drying primers and paints with excellent durability, with amino resins reactive stoving films with good stability, ``Laroflex´´ (BASF) compatibility.
SM 3426	26	Drying vegetable fatty acids	40	max. 10	max. 15	90-110 (50% xylene)	60 in xylene	Very fast drying alkyd resin for air- and forced drying primers and top coats.
SM 3433	33	Drying vegetable fatty acids	38	max. 10	max. 15	60 – 80 (50% in xylene)	60 in xylene	Fast dyring primers and top coats, high solids, low thermoplasticity, ``Laroflex´´ (BASF) compatibility.
TT 3502	35	Drying vegetable fatty acids	24	max. 15	max. 20	60 – 70 (60% in xylene)	80 in xylene	Low viscous, fast drying alkyd resin for low VOC industrial primers.
V 3298	38	Drying vegetable fatty acids	25	max. 10	max. 20	90 – 130 (40% in ws 135-175)	55 in ws 135-175	Fast drying primers, very good elasticity and durability, dilutable with white spirit.
V 3506	33	Special vegetable fatty acids	38	max. 10	max. 20	55 -70 (50% in xylene)	60 in xylene	Suitable for the production of stoving primers and top coats. When using highly reactive amino resins, in order to improve the storage stability of e.g. alcohols are recommended.
S 3375	38	Drying vegetable fatty acids	26	max. 10	max. 10	30 – 45 (60% in BAC)	75 in BAc	Fast drying corrosion primers, acid curing wood coating, with very good elasticity, hardness and durability,.
W 3932	35	Special vegetable fatty acids	19	max. 5	max. 15	55 – 70 (50% in xylene)	75 in xylene	Silicone-modified, short-oil alkyd resin, mainly for the use in industrial coatings, good drying and resistance properties.
W 3126	37	Drying vegetable fatty acids	23	max. 10	max. 15	100 – 150 (60% in xylene)	75 in xylene	For fast drying primers and top coats, PU-coatings, OH= 2.1%.
W 3070	38	Special fatty acids	23	max. 10	max. 10	max.30.000 mPa.s	80% in X/MPA	For air-dyring industrial coating.

VARALAC; Alkyd resins, solvent-based, medium-oil, air-drying

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
B 2845	45	Special fatty acids	25	max. 10	max. 15	80 – 100 (40% in ws 145-195)	55 in ws 145-195	Fast drying radiator paints, automotive and machinery, refinishing enamels with good gloss, Laroflex compatibility.
B 2850 U	45	Special fatty acids	17	max. 15	max. 15	80 – 120 (40% in ws 145-195)	50 in ws 145-195	Urethan modified, extremely fast drying, for primers and topcoats with good recoatability.
B 2901	49	Cotton oil	24	max. 12	max. 12	60 – 70 (40% in dearomat. HC 160-200)	50 in dearomat. HC 160-200	Fast drying, for air- and forced drying industrial, vehicle and machine paints as well as dearomat. do-it-yourself and radiator paints.
B 2902	49	Cotton oil	24	max. 12	max. 12	65 – 75 (55% in dearmat. HC 160-200/ MPA; 3/1)	75 in dearomat. HC 160-200/ MPA	Fast drying, for air- and forced drying industrial, vehicle and machine paints as well as dearomat. do-it-yourself and radiator paints.
DS 2005	40	Special vegetable fatty acids	24	max. 15	max. 15	80 – 120 (60% in dearmat. HC 160-200/ MPA; 2/1)	80 in dearomat. HC 160-200/ MPA	Low viscous, short oil, silicon modified, alkyd resin; it is suitable for the production of high quality top- and one layer coats; paints on basis DS 4005 show good drying and through drying, high permanent elasticity, good adhesion on different substrates and high outdoor resistance; in addition these paints enable a good corrosion protection.
BS 2830	45	Special fatty acids, silicon modified	17	max. 15	max. 15	55 – 70 (50% in ws 145-195)	60 in ws 145-195	Silicon-modified alkyd for high quality industrial and maintenance paints with very good drying properties, high gloss retention and corrosion resistance.
BS 2005	50	Special vegetable fatty acids	17	max. 15	max. 15	25 – 40 (50% in dearmat. HC 160-200)	80 in dearomat. HC 160-200	Low viscous, air-drying, silicon- modified alkyd resin for industrial and house paints, low VOC.
BSA 2015	49	Special vegetable fatty acids	15	max. 12	max. 12	40 – 60 (60% in dearmat. HC 160-200)	85 in dearomat. HC 160-200	Low viscous, air-drying, especially modified alkyd resin with good resistance properties for decorative and house paints, low VOC.
BT 2001	50	Special vegetable fatty acids	24	max. 12	max. 12	60 – 70 (50% in dearmat. HC 160-200)	65 in dearomat. HC 160-20	Fast air drying alkyd resin for low VOC house paints and dearomatized machine-, industrial and D.I.Y.-paints.
FC 2555	55	Special fatty acids	16	max. 10	max. 10	35 – 50 (40% in dearmat. HC 160-200)	55 in dearomat. HC 160-200	Fast drying, low odour and dearomatized radiator and D.I.Y.-paints with high gloss and good yellowing resistance.
S 2351	51	Soya oil	23	max. 10	max. 15	130 – 170 (40% in dearmat. HC 160-220)	50 in dearmat. HC 180-220	White undercoatings, mat and semi gloss enamels with good flow properties.
S 2352	51	Soya oil	23	max. 10	max. 15	9.000–16.000 mPas, 20 °C	60 in isop. HC 170-200	Undercoatings, silkgloss and mat enamels with good flow properties.
SD 2027	50	Special vegetable fatty acids	24	max. 10	max. 15	120 – 170 (40% in dearmat. HC 160-200)	50 in dearmat. HC 180-220	SD 2027 is a medium-oil, quick-drying alkyd resin for the universal use in air- and heat-drying industrial, automotive and machine paints.
SD 2913	49	Special vegetable fatty acids	16	max. 12	max. 12	max. 15.000 mPa.s	85 in dearomat. HC 160-200	Low viscous, air-drying, especially modified alkyd resin with good resistance properties for decorative and house paints, low VOC with good resistance properties.

VARALAC; Alkyd resins, solvent-based, medium-oil, air-drying

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	SupplyForm [%]	Main uses and characteristics
S 2549	50	Soya oil	27	max. 10	max. 15	60 – 65 (40% in ws 145-195)	55 in ws 145-195	Fast drying automotive and machinery refinishing enamels. .
SO 2554	55	Soya oil	15	max. 10	max. 10	70 -100 (40% in isop. HC 170-200)	50 in ws 145-195	Fast drying, low odour, dearomatized machinery industry and D.I.Y.-paints.
VS 2162	41	Special fatty acids	28	max. 10	max. 20	3.00 – 7.500 mPa.s /20°C	50 in dearomat. HC 160-200	Extremely fast drying car refinishing, machinery and industrial paints with high gloss, good through drying.
VS 2163	43	Special fatty acids	23	max. 10	max. 10	130 – 150 (50% ws 130-175)	75 in dearomat. HC 160-200/ MPA	Extremely fast drying car refinishing, machinery and industrial paints with high gloss, good through drying.
VS 2543	50	Special fatty acids	24	max. 10	max. 15	50 – 70 (40% in ws 145-195)	55 in ws/x	Fast drying car refinishing, machinery and industrial paints with high gloss, good through-drying.
AM 2199	50	Air-drying fatty acids	25	max. 7	max. 7	520 – 1.000 mPas/25° C	55 In white spirit / xylene / butanol (89/9/2)	Used in automotive repair enamels, enamels for cars, trucks and buses, enamels for tractors and agricultural equipment and also for air-drying industrial enamels, good drying properties, very good body, good colour, gloss retention and exterior durability.
AF 2288	48	Special linoleic fatty acids	26	max. 5	max. 10	25.000-35.000 mPa.s/23° C	40 in white spirite	Medium-oil alkyd resin based on linoleic fatty acids, used in wall paints, flat enamels, undercoats, offers high viscosity, brushability, fast initial drying and good through hardening, yellowing resistance and penetration properties and offers good pigment binding power.
AK 2410	53	Tall oil fatty acids	25	max. 6	5-10	3.100 – 3.900 mPas/23° C	52 in white spirit/ xylene	Medium-oil chain stopped alkyd resin based on tall oil fatty acids, prayable enamels for semi-industrial purposes on steel and wood and decorative enamels for interior and exterior use. OH-content (non solids) 2.0 %.
AC 2054	-	vegetable oil	-	max. 6	max. 10	max. 500 mPas/25° C	36 in dearomat. HC 160-200	Modified medium oil alkyd resin based on vegetable oil, for industrial top coats, primers and base coats with high hardness and good yellowing resistance. Because of the solubility in aliphatic hydrocarbons. it can be applied by brushing, rollers or spraying equipment.



VARALAC; Alkyd resins, solvent-based, long-oil, air-drying

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
AC 1030	60	Special vegetable fatty acids	-	max. 5	max. 10	65 – 105 (70% in dearomat. HC 160-200)	85 in dearomat. HC 160-200	Acrylated alykd resin with good yellowing resistance, mainly for the use in low VOC house and decorative paints.
B 1865	65	Cotton / Soya	22	max. 8	max. 15	70 – 90 (50% in ws 145-195)	60 in ws 145-195	High quality house, decorative and D.I.Y.-paints with good flow, high gloss, good outdoor resistance.
B 1865	65	Cotton / Soya	22	max. 8	max. 15	40 – 50 (dearomat. HC 160-200)	65 in dearomat. HC 160-200	High quality house, decorative and D.I.Y.-paints with good flow, high gloss, good outdoor resistance.
B 1868	68	Vegetable fatty acids	21	max. 10	max. 15	20 – 40 (50% in dearomat. HC 160-200)	70 in dearomat. HC 160-200	High quality gloss paints, excellent brushability, gloss retention and good drying properties.
R 1048	68	Vegetable fatty acids	21	max. 10	max. 15	2.500 – 6.500 mPa.s.	75 in dearomat. HC 160-200	Long-oil low viscosity drying alkyd for high quality air-drying gloss paints.
B 1870	69	Vegetable fatty acids		max. 10	max. 15	60 – 80 (60% in ws 145-195)	75 in ws 145-195	House paints with good brushability, high film build, good flow and excellent gloss retention.
CR 1155	63	Special fatty acids / urethane modified	17	max. 10	max. 10	200 – 300 (60% in ws 145-195)	70 in ws 145-195	In combination with medium-oil alkyds for high quality car repair finishes and industrial paints.
L 1800	68	Linseed oil	22	max. 10	max. 10	4.500 – 6.000 mPa.s/20°C	81 in dearmat. HC 160-200	Anti-corrosive, D.I.Y.- and house-paints with high film build and good flow properties.
L 1904	79	Linseed oil	-	max. 10	max. 15	8,.000–10.000 maP.s	100	High solid clear lacquers, wood glazings and high solid primers.
L 1004	80	Linseed oil	-	max. 10	max. 15	30-40 (70% in dearmat. HC 160-200)	100	Very low viscouse alkyd resin for wood impregnation and wood glazings.
P 1151	64	Special fatty acids	22	max. 10	max. 10	130 – 190 (80% in ws 145-195)	100	Low viscous, for high conc. Pigment preparations, very good compatibility properties.
R 1290	90	Linseed oil	-	max. 15	max. 15	500 mPa.s/20°C	100	Extremely low viscous alkyd resin, specially suitable for the manufacture of low VOC and VOC-free parquet, terrace- and maintenance oils and also of wood stains and glazings, castings. It shows specially very good penetration, permanent elasticity and weather resistance.
RS 1174	74	Special fatty acids	-	max. 10	max. 6	max. 750 mPa.s/20°C	100	Combination resin for other alkyd resins, improving penetration, decreasing viscosity, VOC reduction, sole binder for wood care and coating products.
S 1400	63	Soya oil	26	max. 10	max. 12	120 – 150 (50% in dearomat. HC 160-200)	60 in dearomat. HC 160-200	Consumer, decorative, D.I.Y.- and anti-corrosive paints.
S 1304	73	Soya oil	-	max. 8	max. 11	47.000-55.000 mPa.s/20°C	100	Low viscous, air-drying decorative and house paints.
T 1313	73	Special fatty acids	-	max. 10	max. 10	8.500–13.000	100	Modified alkyd resin for the production of paints and building varnishes, low VOC.
S 1365	65	Vegetable fatty acids	25	max. 10	max. 15	70 – 90 s 50% in W	60	Do-It-Yourself and building protection paints.
SB 1401	64	Special fatty acids	-	max.10	max. 18	60 – 80 (70% in HC 160-200)	90 in dearomat. HC 180-220	Low viscous, air-drying alkyd long-oil resin for decorative and house paints, low VOC.
SC 1965	65	Special vegetable fatty acids	22	max. 10	max. 15	35 – 50 (50% in dearmat. HC 180-220)	70 in dearomat. HC 180-220	High quality house, very good brush-ability, flow and leveling, high gloss.
B 1301	64	Special vegetable fatty acids	-	max. 10	max. 18	60 – 80 s (70% in HC 16-200)	100	A low-viscosity, air-drying, long-oil alkyd resin for the production of paints and building paints, low VOC.

VARALAC; Alkyd resins, solvent-based, long-oil, air-drying

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
SD 1003	70	Special vegetable fatty acids	-	max. 10	max. 15	4.000–12.000 mPa.s/20°C	85 in dearomat. HC 160-200	Low viscous, air-drying long-oil alkyd resin for the production of decorative and house paints, low VOC.
SD 1200	72	Special vegetable fatty acids	-	max. 10	max. 15	2.000 – 5.000 mPa.s%20°C	85 in dearomat. HC 160-200	Low viscous, long-oil alkyd resin for the production of decorative and house paints, low VOC.
SD 1300	83	Special fatty acids	-	max. 10	max. 15	3.000 – 6.000 mPa.s/20°C	100	Low viscous, long-oil alkyd resin for the production of decorative and house paints, low VOC, especially suitable as combi-nation partner for other alkyd resins.
T 7800	78	Special vegetable fatty acids	-	max. 10	max. 15	6.500–12.000 mPa.s/20°C	100	Low viscous, air-drying, long-oil alykd resin for house paints, glazings, D.I.Y.- and anti-corrosive paints.
AN 1586	67	Castor oil	10	max. 5	10 - 15	1.400 – 2.200 mPa.s/23°C	100	Plasticising resin for cellulose nitrate com-bination lacquers and other physically drying lacquers and pigment pastes with flexibility, pigment wetting and viscosity stability.
AH 1263	72	Mixed fatty acids	-	max. 8	max. 10	2.000 – 3.500 mPa.s/23°C	100	User for decorative high solid paints and stains for intrior and exterior, protective and maintenance primers and topcoats with attainable solids, bushability and speed drying properties.
AH 1265	70	Mixed fatty acids	-	max. 8	max. 10	2.000 – 3.000 mPa.s/23°C	100	User for decorative high solid paints and stains for intrior and exterior, protective and maintenance primers and topcoats with attainable solids, bushability and speed drying properties.
L 1055	-	Safflower oil	-	max. 8	5 - 12	15.000-17.500 mPa.s/40°C	80	A good wetting and fast drying binder for Printing inks.
AH 1928	70	Special vegetable fatty acids	-	max. 10	max. 6	max. 750 mPa.s	100	An extremely low viscosity air drying binder as additional resin for the viscosity reduction.
SB 1442	96	Vegetable fatty acids	-	-	Gel-like/creamy	1.000 – 7.000 mPa.s/23°C	30 in isoparafin. HC 180-220	A saponification stable binding agent. It is particularly suitable for the formulation of wall and ceiling paints, which are designed for very absorbent substrates.
SB 1446	96	Vegetable fatty acids	-	-	Gel-like/creamy	1.500 – 8.000 mPa.s/23°C	30 in isoparafin. HC 180-220	A saponification stable binding agent. It is particularly suitable for the formulation of wall and ceiling paints, which are designed for very absorbent substrates.
SF 1740 H	74	Vegetable fatty acids	26	max. 10	max. 10	3.500 – 6.500	90 in D60	High qualitive decorative paint for internal and external application.

ALKYD URETHANES, STYRENE AND PHENOLIC

A selection of solvent based, alkyd urethanes; styrene and phenolic modified with high weather- and color-stability, high chemical resistance, high hardness and fast drying / curing.

VARALAC; Alkyd resins, solvent-based, urethane-modified

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
B 1865 U	62	Vegetable fatty acids	16	max. 10	max. 10	70 – 100 (50% in ws 145-195)	55 in ws 145-195	Uretahne-modified, for wood varnishes, floor coatings and industrial primers and top coats.
B 1866 H	62	Vegetable fatty acids	16	max. 10	max. 10	45 – 60 (50% in dearmoat. HC 180-220)	60 in dearomat. HC 180-220	Uretahne-modified, for wood varnishes floor coatings and industrial primers and top coats.
S 5703	57	Soya oil fatty acids	21	max. 5	max. 10	5.000 – 7.000 mPa.s/20°C	55 in ws 145-195	Aliphatic urethane-modified alkyd resin, use as B 1865 U with better yellowing resistance.
S 6003	60	Soya fatty acids	19	max. 10	max. 5	23 – 33 (40% in dearomat. HC 160-200)	51 in dearomat. HC 160-200	Use as B 1865 U with faster drying and harder film properties.
S 6004 FD	59	Special fatty acids	18	max. 10	max. 5	30 – 40 (40% in dearomat. HC 160-200)	50 in dearomat. HC 160-200	Use as S 6003 with even faster drying.
SD 6403	64	Special vegetable fatty acids	12	max. 6	max. 10	55 – 80 (45% in dearomat. HC 160-200)	55 in dearomat. HC 160-200	Urethane-modified alkyd resin with good adhesion properties e.g. for renovation coatings on UV parquet sealers.
SD 6803	68	Linseed oil	-	max. 10	max. 15	7.000 –10.000 mPa.s/20°C	75 in dearomat. HC 160-200	Low viscous, urethane alykd resin for decorative and house paints, low VOC, especially suitable as combination partner to improve drying, through drying and hardness.
V 5241 U	81	Linseed oil	-	max.10	max. 3	10.000-15.000 mPa.s/20°C	approx. 100	Low viscous, oil-modified polyethane for high-solid environmentally friendly coating systems and jointing mortar.
UR 5210	56	Soya oil	-	max.7	max.6	3.000 – 4.500 mPa.s/23°C	55 in dearomat. ws	For decorative enamels, primer and topcoat garden furniture, boat varnish / parquet flooring, general metal and maintenance with high gloss, dyring speed and yellowing resistance.
UR 5204	61	Soya oil	-	max.7	max.4	5.000 – 6.000 mPa.s/23°C	60 in ws 145-195	For scratsch resistance semi gloss paints, abrasion resistance floor paints and wood finish/boat varnishes and ship repair, it offers high viscosity, fast initial drying and good through hardening.
UR 5202	60	Linoleic rich oil	-	max.7	max.5	3.500 – 5.500 mPa,s/23°C	50 in ws	For scratsch resistance semi gloss paints, abrasion resistance floor paints and wood finish/boat varnishes and ship repair, it offers high viscosity, fast initial drying and good through hardening.
UR 5314	57	Linseed / soya oil	-	max.6	max.2	2.200 – 3.000 mPa.s/23°C	60 in ws	For clear floor varnishes, corrosion resistant metal primers, marine paints / varnishes and maintenance primers.
UB 2088	52	Special fatty acids	-	max. 10	max. 15	10.000-30.000 mPa.s	100	A medium oil, urethanized bio alkyd resin for highly filled aqueous, exterior paints. The share of renewable raw materials is 95%.
UR 8003	80	Soya oil	-	max. 10	max. 1	40.000-50.000 mPa.s	100	Oil-modified polyurethane, particularly suitable for the production of wood preservative impregnations and wood stain colors.
W 2308	66	Soya oil	-	max. 10	max. 3	4.000 –12.000	60 in ws	For furniture lacquers/flooring, primers for steel and marine paints.

VARALAC; Alkyd resins, solvent-based, styrene-modified

Type	Oil [%]	Oil type	Color/ Gardner	Acid value [mgKOH/g]	Viscosity [mPa.s]/23°C	Supply Form [%]	Main uses and characteristics
ST 381	34	Mixed fatty acid	max. 5	3-10	1.700 – 2.300	60 in xylene	Sytrene modified short-oil alkyd resin based on mixed fatty acids, in industrial spray enamels, corrosion resistant metal primers, marine paints / varnishes and maintenance primers, glossy top coats and hammer finishes, with good drying speed, gloss level, filling properties and hardness.
ST 388	31	Mixed fatty acid	max. 5	3-10	1.500 – 3.000	60 in xylene	Sytrene modified short-oil alkyd resin based on mixed fatty acids, in industrial spray enamels, corrosion resistant metal primers, marine paints / varnishes and maintenance primers, glossy top coats and hammer finishes, - good drying speed, gloss level, filling properties and hardness.
ST 384	45	Tall oil fatty acids	max. 5	max. 11	1.070 – 1.760	60 in xylene / toluene	Sytrene modified short-oil alkyd resin based on tall oil fatty acids, ST 384 XT-60 is a universally employed resin for quick drying primers, enamels and hammer finishes, for hammer and industrial rapid paints, road marking and flooring, corrosion resistant metal primers, marine paints / varnishes and maintenance primers, glossy top coats and hammer finishes, very quick drying, excellent hardness, gloss level, filling properties and hardness and good salt spray resistance.
ST 389	29	Special mixed fatty acids	max. 5	max. 6	2.270 – 2.760	60 in xylene / toluene	Sytrene modified short-oil alkyd resin based on mixed non-yellowing fatty acids, for hammer and industrial rapid paints, road marking and flooring and corrosion resistant metal primers, marine paints / varnishes and maintenance primers - glossy top coats and hammer finishes with good properties, very quick drying, excellent hardness, gloss level, filling properties and hardness and good salt spray resistance.
ST 343	-	Special fatty acids	max. 6	max. 6	10.000-15.000	80 in xylene	Styrene modified alkyd for industrial spray enamels, corrosion resistant metal primers, marine paints / varnishes and maintenance primers, glossy top coats and hammer finishes, - good drying speed, gloss level, filling properties and hardness.
ST 313	-	Tallo oil fatty acid	max. 5	max. 10	-	55 in xylene	Styrene modified alkyd for industrial spray enamels, corrosion resistant metal primers, marine paints / varnishes and maintenance primers, glossy top with good drying speed, gloss level, filling properties and hardness.

VARALAC; Alkyd resins, solvent-based, phenolic-modified

Type	Oil [%]	Oil type	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
AP 438	38	Linseed / tung oil	max. 10	max. 15	250 – 300 (50% in xylene)	60 in xylene	Phenolic modified, for fast drying primers and top coats, putties and fillers.
AP 439	39	Mixed fatty acids	max. 10	max.25	100 – 130 (50% xylene)	60 in xylene	Phenolic modified, fast drying primers and top coats, ``Laroflex´´ (BASF) compatibility.
AP 458	35	Linseed / tung oil	max. 10	max.20	6.000 – 8.500 mPa.s/23°C	60 in xylene	Phenolic modified short-toil alkyd resin based on linseed/tung oil, used in anti-corrosive primers, non lifting fillers and machinery paint, heavy duty (anti-corrosives) and one coat systems for metal with good drying sped, processes hardness and salt spray resistance,

ALKYD SOLVENT-BASED; STOVING/NC/PU CURING

High quality resins for wood; automotive OEM & refinish; protective; metal

VARALAC; Alkyd resins, solvent-based, stoving/reactive/NC-combination

Type	Oil [%]	Oil type	PA [%]	Color / Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
C 628	28	Saturated fatty acids	47	max. 10	max. 15	40 – 60 (50% in xylene)	70 in xylene	High quality non yellowing stoving enamels, NC- and PU-coatings, colourless and pigmented. Hydroxyl content (on solid) = 2.0-2.4 %.
C 632 M	32	Specially modified fatty acids	37	max. 10	max. 18	40 – 60 (50% in BuAc)	65 in BuAc	NC-lacquers with properties as acid curing systems but without form-aldehyde, aromatic free. Hydroxyl-content (on solids) = 2.7-3.3%.
C 640	38	Saturated fatty acids	37	max. 10	max. 15	40 – 60 (50% in xylene)	60 in xylene	NC-lacquers with fast solvent release, good yellowing resistance and recoatability for paper and wood.
C 743 hs	12	Synthetic fatty acids	40	max. 10	max. 20	40 – 60 (60% in aromat. HC 155-180)	80 in aromat. HC 155-180	High solids one component stoving paints with high reactivity and very good mechanical properties. Hydroxyl content (on solid) = 3.0-3.6%.
CD 732	32	Special fatty acids	48	max. 8	25-40	80 – 130 (45% in xylene)	60 in xylene	In combination with suitable amino resins for very reactive primers and top coats with good storage stability, crosslinking with isocyanate is also possible. Hydroxyl content (on solid) = 2.6-3.0%.
M 932	32	Vegetable fatty acids	38	max. 10	max. 18	40 – 60 (40% in xylene)	60 in xylene	Stoving primers and top coats with high reactivity and good mechanical properties. Excellent viscosity stability, stoving cond.: 100-140 °C.
RM 232	32	Conjug. and saturated fatty acids	37	max. 10	max. 15	100 – 120 (50% in xylene)	60 in xylene	Enamel base coats and top coats with medium reactivity and good mechanical properties, curing conditions: 30 min / 130°C or 10 min./160°C.
SH 380	38	Special fatty acids	34	max. 10	max. 15	90 – 110 (60% in BuAc)	70 in BuAc	High reactive SH lacquers, good elasticity, durability and sufficient pot life, NC-compatible, NCO crosslinkable.
SM 400	34	Drying vegetable fatty acids	30	max. 10	max. 20	90 – 110 (50% in xylene)	60 in xylene	In combination with amino resins for high reactive stoving primers and top coats.
SM 426	26	Drying vegetable fatty acids	40	max. 10	max. 15	90 – 110 (50% in xylene)	60 in xylene	In combination with amino resins for high reactive stoving primers and top coats.
T 735	36	Tall oil	35	max. 10	max. 15	60 – 70 (50% in xylene)	60 in xylene	Stoving primers and top coats with medium reactivity and good mechanical properties, curing condition: 10 min / 160°C or 30 min./130°C.
F 26	27	Vegetable fatty acids	39	max. 10	max. 9	2.000 – 3.000 mPa.s/23°C	60 in xylene	In the formulation of primers, knifing fillers, primer surfacers, top coats and dipping paints and flow coatings for radiators. OH-content (on solids) = 2.2%.
FS 41	28	Vegetable fatty acids	41	max. 10	max. 10	2,000 – 3.500 mPa.s/23°C	60 in xylene	In the formulation of primers, knifing fillers, primer surfacers, top coats and dipping paints and flow coatings for radiators. Hydroxyl content (on solid) = 2.5%.
F 251	25	Saturated synthetic fatty acids	29	max. 3	max. 12	6.000 – 9.000 mPa.s/23°C	75 in xylene	Short-oil alkyd resin based on saturated synthetic fatty acids for industrial stoving coatings, two-pack polyurethane coatings, and nitocellulose lacquers. Hydroxyl content (on solid) = 3.3-4.41%.
F 380	38	Satuarted fatty acids	37	max. 10	max. 15	20 – 50 s	70 in ethylacetat	For the production of high-quality nitro-combination lacquers with rapid solvent release for wood and paper.
F 310	31	Saturated fatty acids	43	max. 5	max. 10	3.900 – 5.000 mPa.s/23°C	60 in xylene	Short-oil alkyd resin based on saturated fatty acids, automotive top coats (OEM) coatings for household appliances. The resin has excellent film and mechanical properties and is weather-stable and resistant to yellowing and acids.Hydroxyl content (on solid)=1.8 %.

VARALAC; Alkyd resins, solvent-based, stoving/reactive/NC-combination

Type	Oil [%]	Oil type	PA [%]	Color / Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
PG 143	-	Saturated fatty acids	-	max. 3	max. 15	2.200 – 3.000 mPa.s/23°C	60 in solvesso 100 / xylene	Short oil alkyd resin based on saturated fatty acids, developed for high grade stoving finishes, e.g. automotive OEM, very good durability, excellent colour and gloss retention, high body. Hydroxyl content (on solid) = 3.0 %.
DP 121	-	Saturated fatty acids	-	max. 2	max. 19	1.900 – 2.500 mPa.s/23°C	72 in solvesso 100 / xylene	DP 121 is developed for metal and automotive OEM coatings. DP 121 is recommended for automotive OEM clear coats and top coats with high gloss, excellent mechanical properties, excellent chemical resistance and good outdoor durability. Hydroxyl content (on solid) = 3.0 %.
AN 641	41	Linoleic fatty acids	-	max. 5	max. 10	2.300 – 3.200 mPa,s/23°C	60 in xylene	Medium-oil alkyd resin, in the formulation of high-quality, air and force-drying and nitrocellulose industrial paints and coatings, radiator paints, special effect finishes, primers and DIY paints, with good drying properties, very good body, good colour, gloss retention and exterior durability. Hydroxyl content (on solid) = 2.5%.
AN 655	48	Drying vegetable fatty acids	-	max. 5	max. 10	4.500 – 6.100 mPa.s/23°C	55 in white spirit (TB) / xylene (X) 38 : 7	Medium-oil alkyd resin for the formulation of high-quality, air and force-drying industrial coatings, radiator paints, special effect finishes, primers and DIY paints. Hydroxyl content (on solid) = 1.3%.
AD 500		Drying fatty acids	-	max. 5	max. 10	4.000 – 6.000 mPa.s/23°C	60 in xylene	Short-oil alkyd resin for two component matting coating with recoat ability, adhesion, color retention and good leveling. Hydroxyl content (on solid) = 4.5%.
AN 580	26	Castor oil	26	max. 5	7-15	2.000 – 3.000 mPa.s/23°C	60 in xylene	Use for machinery paints, general industrial air dyring systems, forced drying/stoving systems, industrial wood coating systems and stoving enamels for drums and steel furniture and automotive primer surfacers with colour retention, adhesion and drying speed. Hydroxyl content (on solid) = 2.7%.
MF 308	33	Drying fatty acids	38	max.10	max. 20	55 – 60 s/20°C	65 in xylene	MF 308 is a short-oil alkyd resin based on mixed oil fatty acids, mainly for the production of oven-drying primers and topcoats.Hydroxyl content (on solid) = 2.7%.
MF 327	50	Special vegetable fatty acids	24	max. 10	max. 15	120 – 170 (40% in dearmat. HC 160-200)	50 in dearmat. HC 180-220	MF 327 is a medium-oil, quick-drying alkyd resin for the universal use in air- and heat-drying industrial, automotive and machine paints.
S 895	42	Coconut fatty acid modified	-	max. 6	max. 10	30 – 45 (60% in BAC)	75 in BuAC	Used in lacquers and enamels for wood in combination with nitrocellulose and urea resins. In combination with isocyanate it gives high quality furniture lacquers. For stoving enamels for metal combinations with melamine resins are used.It provides higher solid content in coatings. Hydroxyl content (on solid) = 5.2%
S 513	30	Drying vegetable fatty acids	42	max. 5	7-12	600 – 1.000 mPa.s/23°C (50% in xylene) mPa.s/23°C	70 in xylene	Short-oil alkyd resin for nitrocellulose lacquers and acid curing stoving paints, non-drying proper adhesion, good hardness and non yellowing. Hydroxyl content (on solid) = 1.1 %.

VARALAC; Alkyd resins, solvent-based, stoving/reactive/NC-combination

Type	Oil [%]	Oil type	PA [%]	Color / Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
AN 418	28	Linoleic rich fatty acids	41	max. 5	7-12	2.400 – 3.200 mPa.s/23°C	60 in xylene	Short oil alkyd resin based on linoleic rich fatty acids fatty acids, developed for high grade stoving finishes, machinery paints, general industrial air dyring systems, forced drying/stoving systems and industrial wood coating systems, with colour retention very good adhesion and drying speed. Hydroxyl content (on solid) = 2.0 %.
AN 621	33	Versatic acid	32	max. 5	5-10	8.50 –11.000 mPa.s/23°C	60 in SN150 ND	Short-oil alkyd resin based on versatic acids, used for can coatings and clear overprint varnishes, offers flexibility and sterilization resistance.
AN 637	32	Versatic acid	31	max. 5	5-10	2.500 – 4.000 mPa.s/23°C	60 in SN150 ND	More flexible short-oil alkyd resin based on versatic acids, used for can coatings and clear overprint varnishes, offers flexibility and sterilization resistance.
AD 550	32	Dehydrated castor oil	-	max. 6	10-20	9.500–11.500 mPa.s/23°C	70 in xylene	Short-oil alkyd resin based on dehydrated castor oil fatty acids, used in general purpose stoving enamels and primers and acid curing industrial wood coating. offers good adhesion (on degreased steel)and reactivity, possesses flexibility, low temperature cure and good pigment wetting properties.
AN 621		Versatic acid	-	max. 5	5-10	8.500–11.000 mPa.s/23°C	60 in S150 ND	Short oil alkyd resin based on versatic acid for can coatings and clear overprint varnishes. Offers sterilization resistance. Hydroxyl content (on solid) = 2,6%
AN 637		Versatic acid	-	max. 6	2-10	2.500 – 4.000 mPa.s/23°C	60 in S150 ND	Short oil alkyd resin based on versatic acid for can coatings and clear overprint varnishes. Offers sterilization resistance. Hydroxyl content (on solid) = 2.8%
PN 267	28	Special fatty acids	47	max. 10	max. 15	max. 5.000 mPas/20°C	70 in BuAC	A low viscosity, non-drying, short oil alkyd resin, basis of special fatty acids for the production of anti-yellowing stoving lacquers as well as PUR and NC systems, colorless and pigmented. Hydroxyl content (on solid) = 2,2 %.
UR 367	36	Special fatty acids	35	max. 10	max. 20	10.000-25.000 mPa·s/20°C	80 in BuAC	Mainly for the production of high-quality industrial coatings, general purpose and mirror coatings.
UR 366	36	TOFA	-	max. 10	max. 15	80 – 120 s	75 in BuAC	For 2-K-PU paints and coatings, also force drying coatings. Hydroxyl content = 4,0%.

THIXOTROPIC ALKYD & ACRYLIC RESINS

The advantages of thixotropic binders versus traditional thixotropy additives:

- Thixotropy less dependent on paint processing
- Shorter batch times in paint production (no thickener intermediate production needed)
- Thixotropy controlled within viscosity and gel-strength specifications of resin producer
- No dosage of low density solids needed in paint
- production process

We have two different types of thixotropic resins to offer to the paint industry:

- Poly-amide modified alkyds for decorative market
- Poly-urea based acrylics and alkyds for ACE, Industrial, Marine & Protective and Automotive paints

VARATHIX; Thixotropic alkyd resins, acrylic resins, solvent- or water based

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
TA 1420	-	-	-	max. 1	max. 12	Thixotropic soft gel	50 in BuAc	Thixotropic, hydroxyfunctional pure acrylate for two component finishing lacquers. Hydroxyl content = 2.0%
TA 2117	-	-	-	max. 1	max. 15	Thixotropic soft gel	70 in BuAC	Thixotropic, hydroxyfunctional acrylic resin for 2-PU-system top coats and primers. Hydroxyl content (on solid) = 1.6%
TA 2125	-	-	-	max. 1	-	Thixotropic gel	50 in xylene	Thixotropic styrene acrylic for thick layer coatings and textured finishes. OH=2.5%
TA 2126	-	-	-	max. 1	-	Thixotropic gel	60 in xylene	Can be crosslinked with aliphatic poly-isocyanates to formulate two component systems for metal, wood and plastics, the aliphatic system shows excellent hardness, good chemical resistance and a good outdoor durability. Hydroxyl content (on solid) = 2.3%
TA 2242 W	-	-	-	max. 1	-	Thixotropic gel	58 in W/BuAC/EEP	Thixotropic water-thinnable hydroxyl acrylate for formulating high quality two component structure paints, as combination partner in aqueous two component top coats for improving antisagging properties. OH = 4.2%
TA 2636	-	-	-	max. 1	max. 12	Thixotropic soft gel	50 in X/X/BuAC	For high quality air and forced drying 2-components PU-systems, very good hardness, chemical resistance and weather resistance.
TA 2313	-	-	-	max. 1	-	Thixotropic soft gel	60 in MPA	Thixotropic water-thinnable hydroxyl acrylate for formulating high quality two component air- and force-drying industrial paints. Hydroxyl content (on solid) = 1.3%
TA 2335	-	-	-	max. 1	max. 16	Thixotropic soft gel	60 in X/BuAC/S1	For formulating high quality air- and forced drying top and clear coats, fast hardness and very good adhesion for different metals. Hydroxyl content (on solid) = 3.5%
TA 3013	-	-	-	max. 1	-	Thixotropic gel	50 In Kw 160-200	Thixotropic thermoplastic 1K-airdyring acrylic resin for diffent coatings-systems, compatible with acrylic resins.
TD 446	40	-	-	max. 10	max. 4	Thixotropic soft gel	50 in xylene	Thixotropic epoxy ester, air- and oven drying, for primers, industrial and top coats, zinc dust coatings, thixotropy is not fully degraed by temperature and polar substances.
TL 7904	79	Linseed oil	18	max. 10	max. 15	Thixoptropic strong gel	94 in xylene	High solid clear lacquers, wood glazings and high solid primers.
TL 8050	80	Linseed oil fatty acids		max. 10	max. 15	Thixotropic soft gel	100	Thixotropic long oil alkyd resin, mostly used for wood glazings, useable as sole binder as well.
TL 439	39	Special fatty acids	32	max. 10	max. 25	Thixoptropic strong gel	60 in xylene	Thixotropic long oil alkyd resin, mostly used for wood glazings, useable as sole binder as well.
TS 2655	26	Special fattyacid	40	max. 6	max. 15	Thixoptropic gel	60 in xylene	Thixotropic fast dyring short-oil alykd for primers, top coats and textured finishes, thick layer- and stoving systems.
TL 6357	64	Soya oil	24	max. 6	max. 15	Thixoptropic gel	40 in ws 180-210	Thixotropic long-oil alkyd resin, as com-bination resin for house paints, wood glazings/thick layer thixotropy is not fully degraded by temperature and polar substances.
TL 2887	64	Special fatty acids	-	max. 10	max. 15	Thixoptropic gel	70 in HC 180-22	A long oil thixotropic alkyd resin for production of anti-rust primers, high quality decorative and architectural paints as well as especially for wood glaze colors.
TLS 6455	64	Soya oil fatty acids	25	max. 6	max. 15	Thixoptropic strong gel	50 in ws 145-195	Strong thixotropic long-oil alkyd for thick layer coatings, wood glazings and clear coatings, temperature stable and resistant against polar solvents.
TLS 6657	63	Special fatty acids	19	max. 10	max. 15	Thixoptropic soft gel	60 in HC 180-220	Thixotropic long-oil alkyd, is especially suitable for the manufacture of anti-corrosive primers, decorative and building paints as well as for thick layer wood glazings.

VARATHIX; Thixotropic alkyd resins, acrylic resins, solvent- or water based

Type	Oil [%]	Oil type	PA [%]	Color/ Gardner	Acid value [mgKOH/g]	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
TLS 6658	66	Special fatty acids	20	max. 15	max. 15	Thixoptropic soft gel	70 in HC 180-220	Thixotropic long-oil alykd, is especially suitable for the manufacture of anti-corrosive primers, decorative and building paints as well as for thick layer wood glazings.
TL 6051	60	Special fatty acids	23	max. 15	max. 15	Thixoptropic soft gel	55 in HC 180-220	As TV 747, but with improved resistance against polar substances.
TL 670	61	Special fatty acids	21	max. 15	max. 15	Thixoptropic gel	70 in HC 180-220	Thixotropic long-oil alykd for primers,fillers, gloss and silk gloss coatings, low VOC.
TV 727	63	Special mixed fatty acids	23	max. 10	max. 15	Thixoptropic gel	52 in HC 180-200	Thixotropic long-oil alkyd for semi gloss house paints, primers, wood stains and anticorrosive paints.
TV 747	64	Special fatty acids	23	max. 7	max. 15	Thixoptropic gel	52 in HC 180-220	Thixotropic long-oil alkyd for primers, mat wall and silk gloss paints and thixotropic glossy decorative and protective house paints.
TV 800	62	Special mixed fatty acids	18	max. 10	max. 10	Thixoptropic soft gel	50 in HC 180-200	Thixotropic urethane-modified long-oil alkyd for thick layer coatings, wood glazings and lacquers, temperature stable and resistant against polar solvents.
TU 2768	-	-		-	-	Thixotropic soft gel	60 in BuAC/MPA	Thixotropic, isocyanate-crosslinkable, polyester-modified acrylic resin, OH=5.4%.
TS 1799	60	Special mixed fatty acids	18	max. 10	max. 10	Thixoptropic soft gel	60 in BuAC	A thixotropic, short oil, fast drying alkyd resin basis of vegetable fatty acids for the production of air- and oven-drying basic and top coats. OH-content (non solids) = 1.9%
TP 6625	-	-	-	-	-	Thixotropic gel	60 in BuAC	A thixotropic, saturated, fatty acid-modified polyester predominantly for the production of 2K and stoving structural paints. Due to its broad compatibility, in industrial coatings, good pigment wetting and yellowing resistance.Hydroxyl content (on solid)=4.5%
TL 6358	64	Soya oil	24	max. 6	max. 15	Thixoptropic gel	50 in HC 180-220	Pumable thixotropic long-oil alkyd com-bination resin for building paints, wood glazings, thick layer; thixotropy is not fully degraded by temperature and polar substances.
TLH 5293	62	Special fatty acids		max. 10	max. 15	Thixoptropic gel	85 in D60	TLH 5293 will be used in High Solids paints for professional decorative application.

VARA*GEO*NOVA BIOMERE

Sustainable Products

This products are gentle on the environment and support the paint manufacturer inmaintaining compliance with an increasingly demanding regulatory framework.

Lets paints grow back

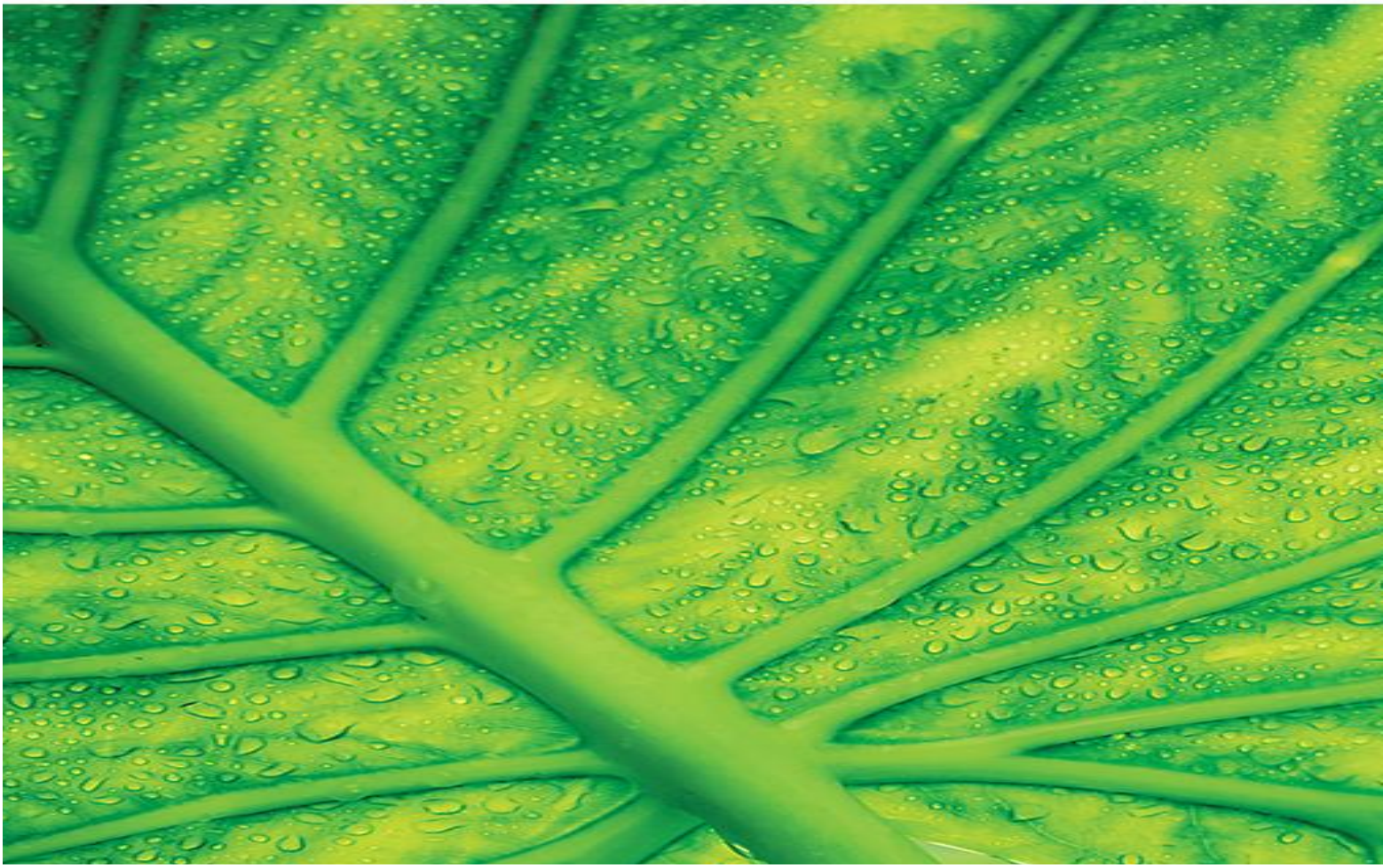
Green Sustainable Paint Solutions

When selecting paint for your next project, consider how eco-friendly it is and how well it will perform.

Our sustainable products meet the trend towards more environmentally friendly coating systems which is driven both by legislation and critical consumers.

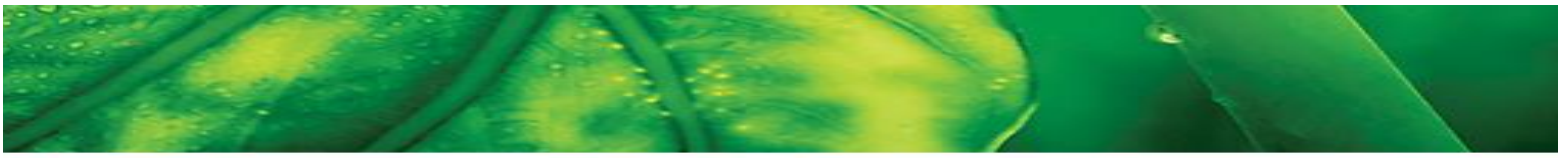
Some of our solutions enable the paint industry to reduce or even eliminate the presence of solvents in wall and trim paints, making it a much safer product for painters. Another recent innovation will prevent the growth of mould and algae on wall paints used in humid environments like kitchens or bathrooms.

In transparent wooden floor coatings our sustainable ingredients offer protection against scratches and stains while still ensuring their natural look.



VARABIOMER GREEN CHEMISTRY

RAW MATERIALS FOR PAINTS AND COATINGS & INKS



GREEN POLYMER

PRODUCTS FOR A SECURE FURTURE

VARABIOMER

RENEWABLE RESINS

The natural oil-based polymer help you to comply with environmental standards

Bio-based resins for coatings

VARABIOMER Bio Resins are, partially or completely, based on monomers which are derived from biological sources. These resins have green appeal as they replace petrochemical based ingredients with plant-based alternatives.

Vegetable oil-based polyols for PU and alkyd resin production are also seeing expanded use as chemistry advances are leading to improvements in performance.

VARAECO products are polyfunctional alcohols made of renewable raw materials such as rapeseed oil, castor oil, soybean oil and palm kernel oil.

BIO-BASED AND WATER-BASED COATINGS

Big Opportunities in the Bio-Based Resin Market

Bio-based raw materials are an important key technology for more sustainable paints and coatings.

RENEWABLE RESINS

The main challenge for paint manufacturers is to meet the growing consumer demand for improved performance, sustainability and safety in a cost-effective way. Meeting low VOC legislation, reducing the carbon footprint of alkyd paints or developing advanced, durable water-based alkyd resins requires specialist expertise and support. We cover all these aspects and much more.

Today's printing inks and coatings are not only much more efficient than just a few decades ago, they are also much more environmentally friendly and healthier, for example through the continuous reduction of volatile solvents. But now it is time to go one step further and research bio-based alkyd resins for inks and coatings.

WE develop, produce and supply **bio-based** alkyd emulsions and alkyd urethane dispersions to the coating market focusing on architectural, metal and wood applications with dedicated solutions.

WATER-BORNE ALKYDS

The godfather of the industry

ENVIRONMENTALLY
FRIENDLY

Water-borne alkyds Wall Painting interpret the energy of color.
Formulated to achieve a perfect, continuous film on walls and ceilings, even on large surfaces.

VARASOL; Alkyd emulsion resins, alkyd-urethane emulsion, water-thinnable

Type	Oil [%]	Acid value [mgKOH/g]	pH value DIN 53785	Viscosity, [mPa.s]/20°C	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
AZ 250 W	44	max. 30	7.0-8.0	50 – 1.500	-	40 in water	Medium-oil alkyd emulsion for high gloss decorative, D.I.Y.- and industrial paints, most versatile type.
AZ 230 W	33	15-20	7.5-8.5	max. 10.000	-	42 in water	Short-oil alkyd emulsion for (drier- free based) anticorrosive primers and top coats.
AZ 280 W	39	15-25	7.0-8.0	max. 10.000	-	42 in water	AZ 280 W is especially suitable for the production of water dilutable air-drying wall and decorative paints (also radiator paints) with very good yellowing resistance. Paints based on 289 W have excellent gloss, low odour and low VOC.
AZ 253 W	53	max. 38	7.0-8.5	max. 10.000	-	30 in water	Medium-oil alkyd emulsion for fast drying wood paints and lacquers.
AZ 227 W	27	max. 30	6.8-7.5	max. 10.000	-	40 in water	Short-oil alkyd emulsion for fast curing wood coatings and all types (also drier-free).
AZ 242 S	42	max. 30	7.0-8.5	max. 5.000	-	40 in water	Medium-oil silicone modified alkyd emulsion for high gloss paint systems (also decorative) with excellent outdoor resistance.
AZ 210 W	40	-	-	max. 3.000	-	46 in water	Solvent-free medium special modified alykd emulsion for water-thinnable decorative and D.I.Y.- paints with good brushability, flow and filling properties, for high gloss top coats and wood protection stains.
AF 247 W	74	-	-	max. 1.500	-	60 in water	Amine and co-solvent-free alkyd emulsion for wood impregnations and wood protecting paints, also suitable as a co-binder to improve open time and filling properties of decorative paints.
AZ 352	26	-	-	max. 1.000	-	40 in water/ propylenglycol / Dowanol PnB	Short-oil alkyd emulsion for the production of air-dyring, colbalt free decorative paints.
AG 709	-	-	-	max. 2.000	-	50 in water	Medium-oil special modified alkyd emulsion with renewable raw materials over 97%, suitable for the production of water-dilutable painter and building paints as well as wall paints and wood stains with very good hardness and drying.
AZ 307	37	35-45	-	-	80-140 (50% in BG)	75 in BG / sec.butanol	Air-drying and low bake industrial primers and top coats, low viscous, very fast dust free drying, early water resistance.
AZ 330	-	max. 20	4.0-5.0	500 – 1.200	-	100	Water-soluble modified linseed oil type, readily reducible with water for printing inks, as additive for latex paints, tinting and artist colours and pigment pastes.
AZ 331	90	85-115	-	350 – 900	-	45 in water/BG 80:20	Water-dispersible linseed oil polymer, readily reducible with water for in- and outdoor stains and wood presenvatives, extremely good penetration and outdoor resistance.
AZ 333	90	90-140	-	1.000 – 2.000	-	45 in water/BG	Water-dispersible linseed oil polymer, readily reducible with water for in- and outdoor stains and wood presenvatives, extremely good penetration and outdoor resistance.
AZ 337	90	55-80	-	230	-	59 in water/BG	Medium linseed oil polymer for wood protection systems, excellent penetration and weather resistance on different woods and long term elasticity.
AZ 461	30	35-45		70-90 (50% in BG)	-	75 in BG / sec.butanol 1:1	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance.
AZ 463	30	35-50	-	-	50-70 (50% in BG)	75 in ethoxy-propanol	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance.
AZ 466	30	40-50	-	-	70-90 (50% in PnB)	70 in Dowanol PnB	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance.
AZ 467	30	35-45	-	-		60 in water / BG / sec.butanol	Air-drying and low bake industrial primers and top coats, very fast drying, excellent corrosion resistance.

VARASOL; Alkyd emulsion resins, alkyd-urethane emulsion, water-thinnable

Type	Oil [%]	Acid value [mgKOH/g]	pH value DIN 53785	Viscosity, [mPa.s]/20°C	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
AZ 469	30	30-40	-	-	50-70 (45% in BG	70 in BG / sec-buatnol / Dowanol PnB	Air-drying and low bake industrial primers and top coats, very fast drying, early water resistance, suitable for agricultural machinery paints.
AZ 468 S	32	35-45	-	-	50-100 (50% in BG)	75 in BG	Slicon-modified alkyd resin for air-drying and stoving systems with excellent weather, heart and humidity resistance.
AG 584	30	-	6.7-8.5	1.000–20.000	-	44 in water / BG (1,0%)	For waterborne stoving systems, high gloss, good mechanical properties, total co-solvent content < 1%.
AG 585	30	-	6.7-8.5	6.000–20.000	-	43 in water / BG (5.5%)	As AG 584 , but more reactive.
AZ 454	62	16-20	6.0-8.0	600 – 800 / 23°C	-	100	Water soluble long oil alkyd for wood impregnation, temporary paints and impregnation, wetting and water soluble paints.
AZ 500	65	14-18	-	3.400 – 4.300 / 23°C	-	80 in water	Architectural and decorative undercoats. solvent based and waterborne wood and furniture coatings and wood stains.
AZ 502	73	-	5.0-8.0	50 – 1.000 / 23°C	-	60 in water	Primers and transparent / opaque stains.
AZ 504	53	-	1.8-2.5	4.000 –10.000 / 23°C	-	55 in water	Interior / exterior primers, transparent / opaque wood stains and exterior and interior wall coatings.
SF 105	71	16-20	-	500 – 1.000	-	100	Water soluble long oil alkyd for wood, metal coatings.
AZ 554	40	-	5.5-7.5	100 – 600	-	50 in water	Interior / exterior primers and topcoats for wood and metals, primers and topcoats for Joinery application and corrosion resistant primers.
AZ 600	26	-	6.7-8.5	500 – 1.000	-	42 in water	Industrial metal primers, insulating wall paints, interior industrial wood stains and stoving enamels.
PU 601 W	25	-	6.0-8.0	200 – 450	-	44 in water	PU modified short oil alkyd emulsion for industrial metal primers, insulating wall paints and interior industrial wood stains with speed drying and salt spray resistance properties.
AZ 576	40	-	7.0-9.0	100 – 1.000	-	53 in water	Interior / exterior primers and topcoats for metals, primers and topcoats for Joinery application and corrosion resistant primers.

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VARASOL; Alkyd emulsion resins, alkyd-urethane emulsion, water-thinnable

Type	Oil [%]	Acid value [mgKOH/g]	pH value DIN 53785	Viscosity, [mPa.s]/23°C	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
PU 510 W	44	max. 30	7.0-80	50 – 1.500	-	40 in water	Co-solvent free, amine-free PU medium alkyd emulsion for the manufacture of air drying water thinnable paint systems. DIY-varnishes, paraquet varnishes and industrial coatings applications.
PU 580 W	28	-	6.0-9.0	50 – 1.500	-	48 in water	PU-modified alkyd, has been specifically formulated for trim enamel and wall paint applications, where toughness and easy cleanup is needed, multi-substrate adhesion, transparency, film hardness also scratch resistance, water resistance and low yellowing.
AF 565 W	40	-	7.0-9.0	200 – 450	-	53 in water	Medium oil, co-solvent and amin free alkyd emulsion, interior / exterior primers and topcoats for wood and metals, primers and topcoats for Joinery application and corrosion resistant primers, with drying speed, leveling, film hardness, gloss level, yellowing resistance, exterior durability and water resistance.
AZ 500	65	14-17	7.0-90	3.400 – 4.300	-	80 in HC 180-220	Water dilutable long oil alkyd; based on linseed/ soya-bean oil, architectural and decorative under-coats, solvent based and waterborne wood and furniture coatings and wood stains; drying speed, offers low viscosity, very good outdoor durability.
CP 809	31	35-45	-	2.500 – 4.000	-	70 in water / butylglycol	A short oil hydroxyl and water dispersion alkyd resin, with Hydroxyl content (on solid) = 2.3%, fast air-dry topcoats and primers, spray, dip and flowcoat, bake systems using melamine resins, drying speed, excellent corrosion resistance, salt spray resistance and excellent adhesion.
PU 548 W	-	-	7.3-8.5	100 – 500	-	42 in water	An alkyd dispersion modified with aliphatic polyurethane, decorative interior/exterior stains and trim paints for wood and metals and joinery, drying speed, transparency, film hardness, scratch resistance and water resistance.
MR 608 W	39	-	-	max. 500	-	50 in water	A short-oil, specially modified alkyd emulsion and is amine-free. MR 608 is suitable for the production of water-dilutable paints and varnishes, building paints, which are particularly characterized by good filling capacity, early water resistance and high gloss.
AF-S 610	38	40-46	-	200 – 300 / 150°C	-	84-86 in DPnP	A short-oil, specially modified alkyd emulsion and is amine-free, oven and airdying anticrrossion coatings.
MZ 722 E	52	48-58	-		70-100 s 50% in butylglycol	75 in ethoxy-propanol	A medium-oil air-drying modified with special fatty acids alkyd resin, which is water-dilutable after neutralization with ammonia or amines.
AZ 218 W	30	-	6.8-7.2	max. 500	-	44 in water	A solvent-free, modified alkyd emulsion, especially for the production of water-dilutable anti-corrosion primers.
S 199 W	38	-	6.1-6.3	max. 100	-	40 in water	A short-oil, specially modified alkyd emulsion for wood, metal, anticrrossion coatings.
SM 221 W	35	-	6.8-7.2	500 – 1.000	-	44 in water	Modified alkyd emulsion with medium oil length. The emulsion does not contain APEO and is free of VOC. The emulsion is neutralized with ammonia. offers excellent stain blocking properties against water soluble substrate contaminations like e.g. nicotine, tobacco condensate, markers and wood ingredients, stain blocking primers and wall paints, tannin blocking wood impregnation.
AF 846 W	74	-	< 7.0	max. 1.500	-	60 in water	A long oil, amine and co-solvent free alkyd emulsion, for the production of wood impre-gnations and wood stains. Another application for 846 is the improvement of open time and highbuild of painters and building paints based on water-based alykd by adding 3 - 10% total formulation.

VARASOL; Alkyd emulsion resins, alkyd-urethane emulsion, water-thinnable

Type	Oil [%]	Acid value [mgKOH/g]	pH value DIN 53785	Viscosity, [mPa.s]/23°C	Flow time 20°C [s]	Supply Form [%]	Main uses and characteristics
SF 108	-	max. 20	4.0-5.0	-	50 – 100 s (85% in BuG)	100	The distinctive features of SF 108, 100% as thinnability with water, only given if 10-15% co-solvent (calculated on solid resin) is used and solvents (e.g. white spirit), smooth and high pigmentation, freeze / taustability and high gloss allow many interesting applications., some examples: printing inks, pigment preparations or tinting pastes, temporary corrosion protection paints artists' colors and additive for dispersion systems.
PU 667 W	44	max. 30	6.5-7.5	max. 3.000	-	45 in water	PU 667 W is a medium-oil PU alkyd emulsion for the production of air-drying waterborne paint systems for the production of quick-drying air and air forced drying systems suitable. It can be topcoats with high gloss, excellent hardness and very good formulate water resistance, a good outdoor resistance should be mentioned.
PU 800 W	-	-	6.0-9.0	500 – 1.500	-	48 in water	Polyuretahne modified alkyd dispersion, for use in formulation at low VOC levels for trim enamel and wall paint applications, where toughness and easy cleanup is needed.
SF 188	68	max. 15	-	10.000-20.000	-	100	A long-oil alkyd resin, which is particularly suitable for the production of aqueous interior wall paints. It is characterized by a high filling power, good elasticity, high hiding power and very good processing properties.

VARAXYN; Epoxy ester, solvent-based, water-based

Product	Supply Form [%]	Viscosity [mPa.s]/23°C	Acid Value [mgKOH/g]	Oil-content [%]	Main uses and characteristics
EE 410	60 in X	800 – 1.500	0-6	40	General Industrial; mainly for anticorrosive and zinc rich primers with excellent long-term , corrosion and water resistance.
EV 412	60 in W	4.500 – 5.700	0-12	40	Vinyl toluene modified epoxy ester resin based on low rosin tall oil and dehydrated castor oil. Used in abrasion resistance paints and varnishes, also on concrete and wood, general industrial, air and stoving primers and top coats for protective and maintenance systems.
EE 420	60 in X	400 – 750	0-4	40	High flexibility epoxy ester, for general industrial; air drying and stoving primers, protective coatings. Can coatings; overprint varnishes and collapsible tube enamels. Automotive; primer and fillers.
EE 430	50 in S150	1.800 – 2.800	0-5	25	An epoxy ester resin based on coconut fatty acids. In combination with a suitable benzoguanamine resin offers good adhesion to metallic substrates, white base coats and printing inks. **FDA approved according § 175.300 and water soluble.**
EE 438	60 in X	2.700 – 3.700	0-7	42	Over print varnish, primers, topcoats, with excellent gloss retention and high temp resistance.
EE 440	50 in S150	2.200 – 2.800	0-4	40	Epoxy ester resin based on dehydrated castor oil fatty acids. Used in general industrial air drying and stoving primers, protective coatings, can coatings, overprint varnishes, collapsible tube enamels and automotive primer and fillers. **FDA approved according § 175.300 and water soluble.**
EE 445	60 in X	2.000 – 2.500	0-6	40	For quick-drying primers and top-coats with very good adhesion and corrosion resistance.
EE 446	60 in X	2.000 – 2.500	0-4	40	For quick-drying primers and top-coats with very good adhesion and chemical resistance.
EZ 451	approx. 51 in G/water	100 – 400	-	41	Epoxy ester emulsion, industrial construction and maintenance metal primers.
EE 463	60 in W	3.000 – 4.000	0-2	-	For universal primers, adhesion and anticorrosive primers.
EE 470	57 in S150/G	3.400 – 4.100		-	For high solid over print varnish and 3-P-Cans & white base coats and printing inks. **FDA approved according § 175.300 and water soluble.**
EE 480	50 solvent-mix	3.000 – 5.000	70-80	-	Water soluble epoxy ester for can coatings and interior coating, **FDA approved according § 175.300 and water soluble.**
EE 690	70 in G	20.000-30.000	57	-	An acrylic modified epoxy ester solution which, for water-based primers and enamels for air dry and bake applications.
EE 746	50 in X	Soft gel	0-4	40	A thixotropic epoxy ester based on conjugated drying fatty acids, used in air-drying and stoving finishes for adherence primers, anticorrosion and zinc dust coatings.
EE 960	70 in BG	55.000	57	-	An acrylic modified epoxy ester solution for water-based primers and enamels, air dry and bake applications., top coats for metal consumer good, maintenance and dip coatings.
EE 631	60 in W	3.000 – 4.000	max. 2	63	Long oil modified epoxy ester for the production of special rust protection and adhesion primers with good flow and good adhesion properties.
EE 621	60 in W	2.500 – 3.500	max. 2	62	Long oil modified epoxy ester for the production of special rust protection and adhesion primers.
EE 4001	75 in X	max. 15.000	max. 4	41	High solid short oil epoxy ester based on conjugated drying fatty acids for the formulation of low-VOC corrosion protective coatings.

PRODUCTS WITH PRESPECTIVE

Markets & Applications

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