

## **Binders**

#### POLYSACCHARIDE RESINS

Description	Chemical composition	Application	Properties
LWD® 100	Polysaccharide resin	Water-based stains	Improved Applicatio, based on renewable raw materials
ECØ® 100	Polysaccharide resin	Temporary coatings	Water soluble, powdered polysaccharide resin, 100% bio-based
ECØ FLO®	Polysaccharide resin	Humectant for water-based colourants	Non-freezing at -15°C, 85% bio-based
LPR 76	Polysaccharide resin	Long- and medium oil alkyds	VOC and cost reduction, 86% bio-based
LPR 221	Polysaccharide resin	Short- and medium oil alkyds	VOC and cost reduction, reduced yellowing, fast drying, 100% bio-based
LTB® 29	Polysaccharide resin	Filling compounds and putties	Forms strength and hardness
INKRES® 33	Polysaccharide resin	Flexographic inks	Partial replacement of acrylic emulsion resins, improved print resolution, < 88% bio-based

#### COPOLYMERS BASED ON VINYL CHLORIDE AND VINYL ISOBUTYL ETHER

Description	Physical form	Viscosity 23,2°C (20% solution in toluene) in mPa·s	Application	Properties
Apriflex 15	Powder	15	Anti-corrosion coatings,	Good compatibility with other coatings
Apriflex 25	Powder	29	road marking paints, printing inks, marine and container paints	raw materials, good pigment binding capacity even at high solids, long lasting
Apriflex 35	Powder	35		
Apriflex 45	Powder	40 - 50		corrosion protection

# **Epoxy resins & reactive diluents**

### EPOXY RESINS BASED ON BPA/F

Description	Chemical composition	Viscosity mPa*s, 25°C	EEW g/eq	Epoxy index (mol/kg)	Application	Properties
Apripox 127	Bisphenol A Liquid Epoxy Resin	8.000 - 11.000	176 - 184	5,44 - 5,68	Composites, civil and electrical engineering, high-solid coatings	Lower viscosity, maximum mechanical resistance, excellent heat resistance
Apripox 128	Bisphenol A Liquid Epoxy Resin	11.000 - 15.000	184 - 195	5,13 - 5,44	Composites, civil and electrical engineering, high-solid coatings	Good pigment wetting, high mechanical and chemical resistance

#### MODIFIED LIQUID EPOXY RESINS

Description	Chemical composition	Viscosity mPa*s, 25°C	EEW g/eq	Epoxy index (mol/kg)	Application	Properties
Apripox 240	Blend of bisphenol A/F modified with reactive diluent	700 - 1.100	185 - 196	5,10 - 5,40	Composites for building and civil engineering, high-solid coatings	Low viscosity, low odor, no tendency to crystallisation

#### **EPOXY RESINS SOLUTIONS**

Description	Chemical composition	Viscosity mPa*s, 25°C	EEW g/eq	Epoxy index (mol/kg)	Application	Properties
Apripox 011 X 75	75% solution in xylene	8.000 - 12.000	450 - 500		Marine and industrial paints, anti-corrosive coatings	Industry standard for heavy duty anti-corrosion paints

# **Epoxy resins & reactive diluents**

### REACTIVE DILUENTS

Description	Chemical composition	CAS- number	Viscosity mPa*s, 25°C	Epoxy index (mol/kg)	Application
AGE 12-14	Alkyl (C12-C14) Glycidyl Ether	68609-97-2	6 - 15	3,20 - 3,70	Reactive diluent for high viscosity epoxy resins, compatible in all concentrations with epoxy resin. Widely used in high quality epoxy coatings
BDGE	1,4 Butanediol Diglycidyl Ether	2425-79-8	10 - 20	7,40 - 8,30	Reducing the viscosity of epoxy resins. Good wetting ability
HDGE	1,6 Hexanedioal Diglycidyl Ether	16096-31-4	15 - 25	6,50 - 7,20	Reducing the viscosity of epoxy resins. Can improve the flexibility
PPGGE	Polypropylene Glycol Diglycidyl Ether	26142-30-3	25 - 45	2,90 - 3,40	Reducing the viscosity of epoxy resins. Improves impact resistance

# **Acrylate monomers**

### ACRYLATE MONOMERS

Description	Chemical composition	Application	Properties
HEA	2-Hydroxyethyl Acrylate	UV Coatings, Adhesives, Reaction product in polymer synthesis	Highly reactive, good adhesion, fast curing
HEMA	2-Hydroxyethyl- methacrylate	UV Coatings, Adhesives, Reaction product in polymer synthesis	Highly reactive, good adhesion, fast curing
НРМА	2-Hydroxypropyl- methacrylate	UV Coatings, Adhesives, Reaction product in polymer synthesis	Lower reactivity than HEA, good adhesion, fast curing
MAA	Methacrylic Acid	Reaction product in polymer synthesis, Raw material for MAA esters, Thickener, Surfactant, Adhesives	Highly reactive, fast curing
MMA	Methyl Methacrylate	Reaction product in polymer synthesis, Raw material for Acrylic Glass (PMMA), Printing inks, Coatings, Paints	Highly reactive, fast curing
IBOA	Isobornyl Acrylate	Printing inks, Coatings, Paints	Highly reactive, good durability, low shrinkage
DPGDA	Dipropylene Glycol Diacrylate	Printing inks, UV Coatings, Reaction product in polymer synthesis	Low viscosity, good chemical resistance
HDDA	Hexanediol Diacrylate	Printing inks, UV Coatings, Adhesives, Textile coatings, Reaction product in polymer synthesis	Easily dilutable, low viscosity, very good chemical and weather resistance, very good hardness
TPGDA	Tripropylene Glycol Diacrylate	Printing inks, UV Coatings, Reaction product in polymer synthesis	Low viscosity, very good chemical and weather resistance, very good hardness, high transparency
PEG600DA	Polyethylene Glycol (600) Diacrylate	Printing inks, UV Coatings, Wood coatings, Overprint varnishes, Printing plate coatings	Water-soluble, high flexibility
ТМРТА	Trimethylolpropane Triacrylate	Printing inks, UV Coatings, Wood coatings, Overprint varnishes	Highly reactive, good abrasion resistance, good hardness
ТМРТМА	Trimethylolpropane Trimethacrylate	Printing inks, UV Coatings, Wood coatings, Overprint varnishe	Highly reactive, good abrasion resistance, good hardness, high temperature and scratch resistance
ТМРЗЕОТА	Ethoxylated Trimethylolpropane Triacrylate	Printing inks, UV Coatings, Wood coatings, Overprint varnishes	Highly reactive, good abrasion resistance, more flexible than TMPTA, better labeling than TMPTA
PET3A	Pentaerythritol Triac- rylate	UV Coatings, Synthetic resins	Fast curing, increased adhesion and crosslinking density

## **Additives**

#### WETTING & DEFOAMER

Description	Chemical composition	Active matter content (%)	Application	Properties
Aprinol 104	Acetylenediol	100	Water- and solvent- based coatings	Versatile surfactant, combined dynamic wetting and defoaming in water-based paints
Aprinol 104 PG 50	Acetylendiol	50	Water- and solvent- based coatings	Versatile surfactant, combined dynamic wetting and defoaming, dissolved in propylene glycol, application concentration 0.1% - 1.0%
Aprinol 104E	Acetylenediol	50	Water-based coatings	Versatile surfactant, combined dynamic wetting and defoaming in water-based paints
Aprinol 420	Acetylenediol	100	Water-based coatings	Versatile surfactant, combined dynamic wetting and defoaming in water-based paints
Aprinol 440	Acetylenediol	100	Water-based coatings	Versatile surfactant, combined dynamic wetting and defoaming in water-based paints
Aprinol 465	Acetylenediol	100	Water-based coatings	Versatile surfactant, combined dynamic wetting and defoaming in water-based paints
Aprinol 485	Ethoxylated ace- tylene surfactant	100	Water-based coatings	Very compatible versatile surfactant, dynamic wetting, application concentration 0.2% - 2.0%
Aprinol 2502	Acetylene alkoxylate-based gemini surfactant	100	Water-based printing inks and industrial coatings	Versatile surfactant, combined dynamic wetting and defoaming, improves colourant acceptance, application concentration 0.1% - 1.0%

#### MINERAL OIL DEFOAMERS

Description	Chemical composition	Active matter content (%)	Application	Properties
LORAMA LAF® 120	Mineral oil-based	20	Water- and solvent- based coatings	Synergies with LPR 76 and LPR 221, application concentration 0.05% - 0.5%

#### PIGMENT WETTING AND STABILIZATION OF PIGMENTS

Description	Chemical composition	Active matter content (%)	Application	Properties
LDA® 100	Surface-active polymer	100	Solvent-based coa- tings, universal pastes	Widely usable wetting and dispersing additive, stabilises inorganic pigments, good compatibility with LPRT
LDA™ 150	Surface-active polymer	52	Solvent-based coatings	Excellent viscosity reduction with inorganic pigments, especially with titanium dioxide
LDA™ 160	Surface-active polymer	52	Solvent-based coatings	Wetting and dispersing additive to prevent settling of inorganic pigments, particularly suitable for highly filled concentrates
LDA® 410	Surface-active polymer	90	Water- and solvent- based coatings	Wetting and dispersing agent, post-additive, development of colour strength and colour acceptance
Aprinol GA 100	Surface-active polymer	80	Water-based coatings, pigment concentrates	Non-ionic grinding aid for water-based formulations with a focus on pigmented systems. Helps to reduce the air content of the grind. Dosage concentration 0.2% -2.0%

#### HYDROPHOBIC AGENTS

Description	Chemical composition	Active matter content (%)	Application	Properties
Silicon Oils	Polydimethylsiloxanes, different viscosities from 0.65 cSt 1,000,000 cSt.	100	Building materials	Hydrophobic treatment

#### pH CONTROL

Description	Chemical composition	Active matter content (%)	Application	Properties
Loramine® Plus	2-aminoethanol		Water-based coatings	pH stabiliser, low odour
Aprinol 90	2-Amino-2-methyl-1-propanol 90%	90	Water-based coatings	Multifunctional additive for pH control
Aprinol 95	2-Amino-2-methyl-1-propanol 95%	95	Water-based coatings	Multifunctional additive for pH control

#### **BONDING AGENT - SILANE**

Description	Chemical composition	CAS-number	Properties
Aprisilane 111	3-Aminopropyltrimethoxysilane (AMMO)	13822-56-5	Adhesion promoter
Aprisilane 110	3-Aminopropyltriethoxysilane (AMEO)	919-30-2	Adhesion promoter
Aprisilane 187	3-Glycidoxypropyltrimethoxysilane (GLYMO)	2530-83-8	Adhesion promoter
Aprisilane 1871	3-Glycidoxypropyltriethoxysilane (GLYEO)	2602-34-8	Adhesion promoter
Aprisilane 174	3-Methacryloxypropyltrimethoxysilane (MEMO)	2530-85-0	Adhesion promoter
Aprisilane 602	N-(2-Aminoethyl)-3-Aminopropyl- Methyldimethoxysilane	3069-29-2	Adhesion promoter
Aprisilane 112	N-(2-Aminoethyl)-3-Aminopropyl-Trimethoxysilane (DAMO)	1760-24-3	Adhesion promoter
Aprisilane 172	Vinyltris2(methoxy)silane (VTMOEO)	1067-53-4	Adhesion promoter
Aprisilane 151	Vinyltriethoxysilane (VTEO)	78-08-0	Adhesion promoter
Aprisilane 171	Vinyl trimethoxysilane (VTMO)	2768-02-7	Adhesion promoter
Aprisilane 318	Methyltrimethoxysilane (MTMOS)	1185-55-3	Adhesion promoter
N-octyltriethoxysilane	N-octyltriethoxysilane (OCTEO)	2943-75-1	Adhesion promoter

#### CROSSLINKER

Description	Chemical composition	SiO2 content (%)	CAS-number	Properties
Aprisilane T 28	Tetraethoxysilane, monomeric ethyl silicate	28	78-10-4	Improved chemical and mechanical properties by thin SiO2 film. Highly heat resistant
Aprisilane T 40	Tetraethoxysilane Oligomer	40	68412-27-3	Improved chemical and mechanical properties by thin SiO2 film. Highly heat resistant

#### ANTI-SKIN AGENT

Description	Chemical composition	CAS-number	Properties
Apri-Skin 623	2-Pentanoxim	Solvent-based alkyd resins, sealants	Anti-skin agent, MEKO replacement

#### SCRATCH RESISTANCE

Description	Chemical composition	CAS-number	Properties
Zandosil® 30	High-purity fumed silica	UV coatings for wood and overprint varnishes	Improved scratch and abrasion resistance, low influence on rheology

#### MATTING

Description	Chemical composition	CAS-number	Properties
Aprimatt 6	Polymer matting agent	Matting of aqueous, solvent-based high-solids and UV-curing coatings	Low influence on viscosity, good haptics, low absorption of catalysts

#### RHEOLOGICAL MODIFIER AND ANTI-SEDIMENTATION

Description	Chemical composition	CAS-number	Properties
Fumed Silica 150, 200, 300, 380	Pyrogenic silica	Water- and solvent-based	Control of rheology, anti-sedimentation
Fumed Silica T972, T974, T202	Hydrophobic fumed silica	coatings	of pigments, free-flow, scratch resistance, corrosion resistance

#### COALESCING AGENT

Description	Chemical composition	CAS-number	Properties
Aprifilm C12	2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate	Acrylic paints, styrene-acrylics, and vinyl acetate copolymer dispersions	Promotes uniform film formation with optimal properties

# **Anorganic Pigments**

### IRON OXIDE

Description	Chemical composition	Properties
Brown - several types, including micronised	PR 101 + PBk 11 + PBr 43	Improved Applicatio, based on renewable raw materials
Yellow - several types, including micronised	PY 42	Water soluble, powdered polysaccharide resin, 100% bio-based
Red - several types, including micronised	PR 101	Non-freezing at -15°C, 85% bio-based
Black - several types, including micronised	PB 11 und PB 26	VOC and cost reduction, 86% bio-based

#### TITANIUM DIOXIDE

Description	Chemical composition	Properties
Rutile, Sulfate - different grades	PW 6	Rutile Pigment from sulfate process, surface treated, versatile, e.g. for indoor and outdoor applications
Rutile, Chloride - different grades	PW 6	Rutile Pigment from chloride process, surface treated, versatile, e.g. for indoor and outdoor applications

#### PIGMENT PASTES

Description	Application	Properties
ColourFal Zerø®	Universal colourant for water-based coatings	Binder-free, contains renewable raw materials
ColorFal® Industrial	Colourant for solvent- based coatings	Based on Aldehyde resins

## **Fillers**

#### FUNCTIONAL FILLER WITH LESS DENSITY

Description	Chemical composition	Application	Properties
Magspheres B-Serie	Structured foam of a special glass in granulate form	Light aggregate, light filler for a wide variety of applications	Lightweight, multicellular, different sizes up to the mm range. Bulk density approx. 90-800 (g/L)
Magspheres C-Serie	Ceramic hollow microsphere in 3 quality levels	Light filler for use in varnishes, paints, temperature-resistant products. Special types for high temperature applications and paints and varnishes	Highly heat-resistant (1200 degrees), lightweight, low thermal conductivity, shades in grey to white, bulk density approx. 350-450 (g/L)
Magspheres G-Serie	Glass hollow spheres - Recycled borosilicate glass	Glass hollow spheres for us in synthetic resin systems and other applications	Hollow glass microspheres with low thermal conductivity and in various grain sizes. Density variable. Bulk density approx. 90-800 (g/L). Temperature resistant till 400 degrees
Magspheres A-Serie	Aerogel	Lightweight filler for use in varnishes, paints and temperature-resistant products. Special grades for high-temperature applications and paints and varnishes	Low density, inert high BET and hydrophobic
Magspheres P-Serie	Perlite	Special expanded perlite with high pressure resistance for use as a light filler in synthetic resin systems and construction chemical applications	Low density

#### OTHER FUNCTIONAL FILLERS

Description	Chemical composition	Application	Properties
Kaolin	Lamellar, natural and calcined types; delaminated, ultra-fine to coarse, plastic, soft Mohs' hardness 2 - 2.5, some types with quartz contents of approx. 0.1 wt.%.	TiO2 extender, calcined as matting agent, for silk gloss to matt lacquers, especially for waterborne formulations; especially for decorative paints, but also for dispersion adhesives	Improvement of edge wetting, crack bridging, increase of hiding power, good flow Properties
Talc	Lamellar, very white, fine to coarse types, colour neutral, plastic, very soft Mohs' hardness 1	Especially suitable for non-polar solventborne formulations, supports hydrophobicity; both for industrial coatings and emulsion paints	Matting agent, improvement of edge wetting, crack bridging, improvement of wet abrasion resistance
Mica	Lamellar, sehr hohes Aspect- Verhältnis, elastisch, rel. weich, Mohs'sche Härte 2,5 - 3	Decorating pigment e.g. glimmer, for emulsion paints and plasters, anti-corrosion paint	Low oil adsorption, crack bridging, armouring, improving the wet abrasion resistance
Slate powder	Grey, platy, cost-effective	For primers and fillers where the color is not relevant, anti-caking agent	Cost effective functional filler, barrier-effect
Barium sulfate	Corpuscular, chemically inert, white, high density	Especially for industrial coatings	Low binder requirement, high filling levels possible, good hiding power
Calcium sulfate - Gypsum	Corpuscular, chemically inert, white, Mohs' hardness 2	Filler for building materials and adhesives	Low in heavy metals, improvement of packing density
Calcium sulfate - Anhydrite	Corpuscular, chemically inert, white, Mohs' hardness 3-3.5	Filler for building materials and adhesives	Low in heavy metals, improvement of packing density
Aluminium hydroxide, standard and milled	Very white, chemically inert, colour neutral	Especially suitable for UV-curing systems	Flame retardant, pure white, color neutral
Aluminium hydroxide, fine precipitated	Very white, narrow particle size distribution, chemically inert, colour neutral	Flame retardant, especially suitable for UV-curing systems	Flame retardant, pure white, color neutral

## **Solvents**

Dowanol / Glycols
Acetals
Aliphatics diverse
Aromatics diverse
Alcohole diverse
Ketone diverse
Glycolether diverse
Ester diverse
Acetate diverse





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