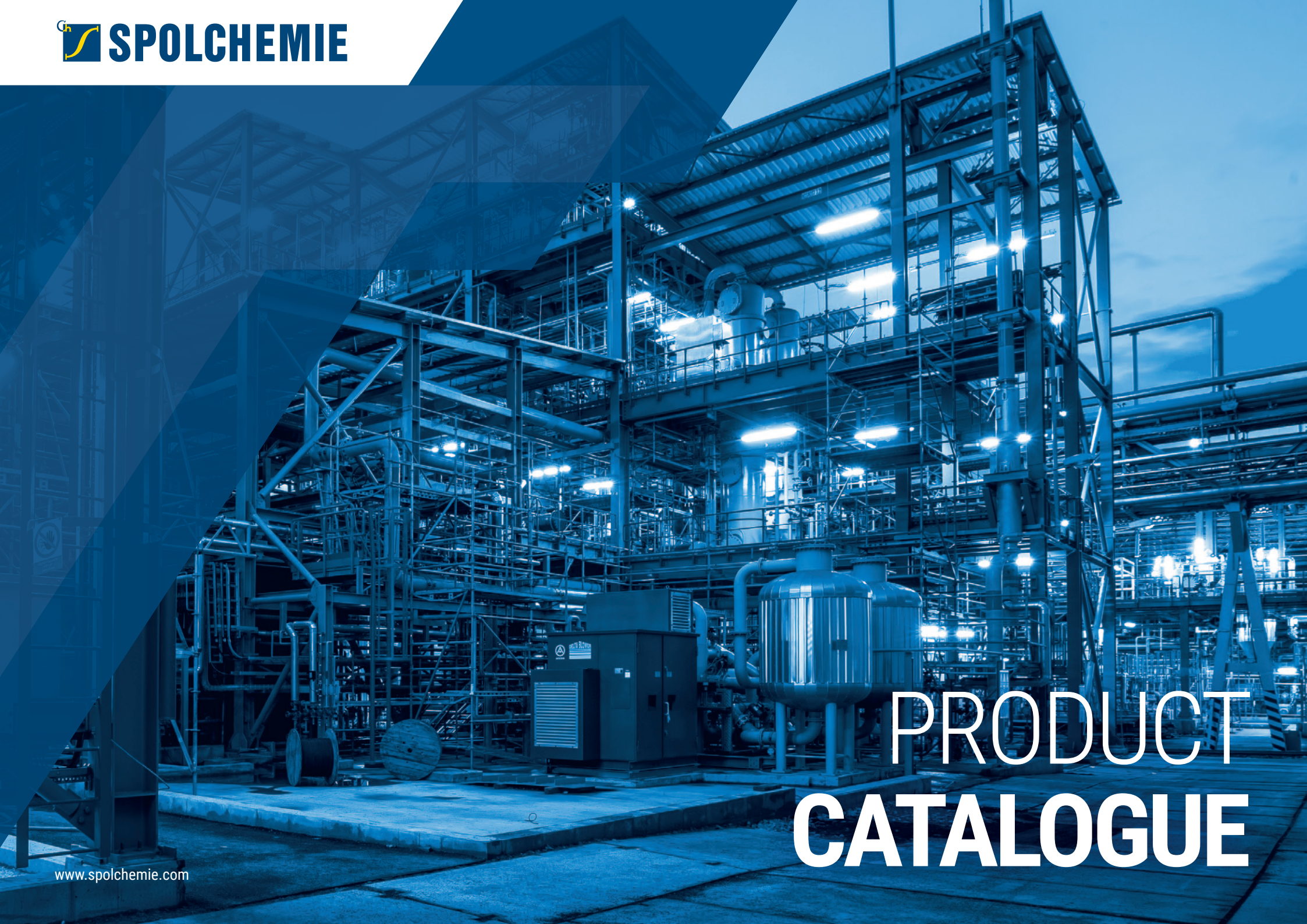
SPOLCHEMIE



PRODUCT CATALOGUE

www.spolchemie.com

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SPOLCHEMIE

COMPANY INTRODUCTION

The SPOLCHEMIE company has been a key player in the European chemical industry for 167 years. Its success has been achieved through the excellent and profound knowledge of our R&D teams and the constant development of our production facilities. 90% of our production takes place in facilities built after the year 2004. Our own production units are subject to strict European legislation and very high technical standards.

R&D AND INNOVATIONS

From our very beginnings, our success has come from the innovation and development of new materials and chemicals in compliance with our customers' requirements and with developments in the global industry. Our in-house research teams based directly at Spolchemie in Ústí nad Labem are closely linked to the company's production and business division – this means being able to respond to our customers' individual needs faster, more flexibly, and more efficiently.

Our resin research and development team develops systems for composites, paints, and the building industry. Our inorganics research and development team focuses on the development of chlorine derivatives. Our own research institute in Pardubice features state-of-the-art research facilities and offers independent certification, analyses, and measurements for customers via its own accredited laboratories. Spolchemie Technical Service provides flexible performance based on customer requirements.

The trends in our research and development focus strongly on the utilisation of environmentally friendly and renewable resources, while production focuses on special sophisticated systems of alkyd and epoxy resins.

SUSTAINABILITY CONCEPT

We focus on the production of materials with a positive impact on the environment. We are constantly working to minimize the adverse effects of industrial manufacturing in the communities where we live and work. As a member of the Chemical Industry Association of the Czech Republic, we are one of the first companies in the Czech Republic to have dedicated itself to the principles of Responsible Care.

Photo: SPOLCHEMIE Office Building (Built 1930)

BASIC EPOXY RESINS

Our **EnviPOXY®** product range offers significant advantages in terms of quality and environmental benefits. It is the only low molecular epoxy resin produced in Europe **with a maximum renewable content of 33,5% (calculated value)**.

A cradle-to-gate life cycle assessment (LCA) of both epoxy production processes confirmed that the conventional route from propylene has significantly higher environmental impacts. Compared to the propylene route, **the carbon footprint of our environmentally friendly epoxy production from glycerine is lower by 65%,** consumes less energy, and has lower eutrophication and acidification potential.

EnviPOXY® Resins FROM FOSSIL **TO RENEWABLES**

Using our EnviPOXY® can contribute to climate protection and reduce environmental impact of your product.

Photo: Epoxy Resin Production Plant - Epispol (2007)

Product	Viscosity (Pa.s, 25 °C)	Epoxy index (mol/kg)	EEW (g/mol)	Hydrolyzable chlorine (%)	Colour (APHA, Gardner*)	Application	Description
EPOXY RESINS — EnviPOXY® | ONLY TOP SELECTED PRODUCTS							
EnviPOXY® 520	12,0–14,5	5,21–5,50	182–192	max. 0,03	max.100	Modifications, adhesives, composites	BPA type, **low CO_2 footprint**
EnviPOXY® 525	10,0–12,0	5,29–5,59	179–189	max. 0,03	max.100	Modifications, adhesives, composites	BPA type, **low CO_2 footprint**
EnviPOXY® 210 X 75	5,0–12,0	2,0–2,3	445–500		max.1*	High performance 2K coating materials such as anticorrosion primers, baking coatings	75% solution in xylene, **low CO_2 footprint**
EnviPOXY® 130	0,3–0,6[2]	1,25–1,43	700–800		max.100	Powder coatings	Medium molecular weight "3-type" epoxy resin, **low CO_2 footprint**

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

Product	Viscosity (Pa.s, 25 °C)	Epoxy index (mol/kg)	EEW (g/mol)	Hydrolyzable chlorine (%)	Colour (APHA, Gardner*)	Application	Description
UNMODIFIED LIQUID EPOXY RESINS							
CHS-EPOXY® 510	12,5–16,0	5,18–5,46	183–193	max. 0,03	max.200	Modifications, adhesives, composites	BPA type, low tendency to crystallize
CHS-EPOXY® 520	12,0–14,5	5,21–5,50	182–192	max. 0,03	max.100	Modifications, adhesives, composites	BPA type
CHS-EPOXY® 525	10,0–12,0	5,29–5,59	179–189	max. 0,03	max.100	Modifications, adhesives, composites	BPA type
CHS-EPOXY® 525 LA	10,0–12,0	5,30–5,50	182–189	max. 0,03	max.100	Modifications, adhesives, composites	BPA type with low α-glycol content
CHS-EPOXY® 530	8,0–10,0	5,38–5,68	176–186	max. 0,03	max.100	Modifications, adhesives, composites	BPA type
CHS-EPOXY® 590	3,0–5,5	5,70–6,06	165–175	max. 0,03	max.100	Modifications, adhesives, composites	BPF type
SEMI-SOLID EPOXY RESINS							
CHS-EPOXY® 301		2,7–3,3	300–370		-	Hot casting, solventborne coatings, prepregs	BPA type semisolid epoxy resin
CHS-EPOXY® 411	0,5–0,8[1]	3,9–4,2	238–256		max.100	Hot casting, solventborne coatings, prepregs	BPA type semisolid epoxy resin
UNMODIFIED SOLID EPOXY RESINS							
CHS-EPOXY® 030	2,6–6[2]	0,25–0,45	2 220–4 000		max.100	Can and coil coatings etc.	High molecular weight "9-type" epoxy resin
CHS-EPOXY® 030 HV	6–8[2]	0,26–0,44	2 273–3 846		max.100	Can and coil coatings etc. with higher viscosity than CHS-EPOXY 030	High molecular weight "9-type" epoxy resin
CHS-EPOXY® 050	1,6–2,6[2]	0,50–0,65	1 550–2 000		max.100	Can and coil coatings etc.	High molecular weight "7-type" epoxy resin
CHS-EPOXY® 070	1,7–2,6[2]	0,61–0,74	1 350–1 640		max.100	Can and coil coatings etc.	High molecular weight "6-type" epoxy resin
CHS-EPOXY® 112	0,5–1,0[2]	0,95–1,11	900–1 050		max.100	Powder coatings	Medium molecular weight "4-type" epoxy resin
CHS-EPOXY® 121	0,4–0,8[2]	1,11–1,25	800–900		max.100	Powder coatings	Medium molecular weight "3, 5-type" epoxy resin
CHS-EPOXY® 130	0,3–0,6[2]	1,25–1,43	700–800		max.100	Powder coatings	Medium molecular weight "3-type" epoxy resin
CHS-EPOXY® 141	0,30–0,55[2]	1,43–1,54	650–700		max.100	Powder coatings	Low molecular weight "2, 5-type" epoxy resin
CHS-EPOXY® 160	0,25–0,45[2]	1,54–1,67	600–650		max.100	Powder coatings	Low molecular weight "2-type" epoxy resin
CHS-EPOXY® 171	0,20–0,35[2]	1,67–1,82	550–600		max.100	Powder coatings, solventborne coatings	Low molecular weight "1, 5-type" epoxy resin
CHS-EPOXY® 211	0,15–0,25[2]	1,82–2,22	450–550		max.100	Solventborne coatings	Low molecular weight "1-type" epoxy resin
CYCLOALIPHATIC EPOXY RESINS							
CHS-EPOXY® 560	0,5–1,3	5,50–6,10			max.1*	Outdoor transformers, insulators, bushings etc.	Hexahydrophthalic acid diglycidyl ester

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

MODIFIED EPOXY RESINS

Product	Viscosity (Pa.s, 25 °C)	Epoxy index (mol/kg)	EEW (g/mol)	Hydrolyzable chlorine (%)	Colour (APHA, Gardner*)	Application	Description
MODIFIED LIQUID EPOXY RESINS							
CHS-EPOXY® 324	20,0–60,0	3,0–3,4	294–333		max.300	Adhesives for metals, wood, ceramics	Epoxy resin modified with a non-phthalate, non--reactive plasticizer
CHS-EPOXY® 455	2,0–4,0	4,3–4,8	208–232		max.100	Adhesives, civil engineering and composites	Epoxy resin modified with a non-phthalate, non--reactive plasticizer
CHS-EPOXY® 474	0,3–0,6	4,5–4,9	204–223		max.100	Composites, coatings, applications in civil engineering, casting compounds	Epoxy resin modified with mono-functional reactive
CHS-EPOXY® 498	0,5–0,7	4,8–5,1	196–208		max.100	Civil engineering, potting and impregnation	Epoxy resin modified with mono-functional reactive diluent
CHS-EPOXY® 512	2,5–4,1	4,3–4,8	208–233		max.100	Casting, composites, adhesives, construction (bonding agent for mortar, concrete and high chemical resistance compositions)	Epoxy resin modified with non-reactive modifier, flexibilized
CHS-EPOXY® 517	0,55–0,95	4,3–4,7	213–233		max.100	Casting, composites, adhesives, construction (bonding agent for mortar and concrete)	Epoxy resin modified with reactive diluent, flexibilized
CHS-EPOXY® 521	0,6–0,9	4,85–5,1	196–206		max.100	Composites, potting, solventless coatings, civil engineering	Epoxy resin modified with mono-functional reactive diluent
CHS-EPOXY® 531	1,5–2,3	5,5–5,7	175–182		max.100	Composites, solventless coatings and impregnations, construction (bonding agent for mortar, concrete and food industry compositions)	Epoxy resin modified with bi-functional reactive diluent
CHS-EPOXY® 582	0,64–0,72	5,8–6,1	165–173		max.100	Casting, composites, polymer concretes and mortans	Epoxy resin modified with bi-functional reactive diluent
CHS-EPOXY® 619	0,4–0,9	5,9–6,5	155–170	max. 0,2	max.100	High performance laminating, potting, solventless coatings and impregnation	Epoxy resin modified with tri-functional reactive diluent
MODIFIED SOLID EPOXY RESINS							
CHS-EPOXY® 112 4F0,5	0,5–1,0[2]	1,05–1,11	900–950			Powder coatings	Modified by 0, 5% of flow control agent
CHS-EPOXY® 112 4F5	0,5–1,0[2]	0,90–1,10	910–1 110			Powder coatings	Modified by 5% of flow control agent
CHS-EPOXY® 130 4F10	0,3–0,6[2]	1,10–1,30	770–910			Powder coatings	Modified by 10% of flow control agent
CHS-EPOXY® 141 4F5	0,35–0,5[2]	1,30–1,45	690–770			Powder coatings	Modified by 5% of flow control agent
CHS-EPOXY® 160 4F2,5	0,25–0,45[2]	1,50–1,70	590–670			Powder coatings	Modified by 2, 5% of flow control agent
BROMINATED EPOXY RESINS							
CHS-EPOXY® B 200 M 80	1,1–2,3	1,8–2,3	435–556	max. 0,1	max.1*	Prepregs for printed circuits boards, laminates	80% solution of brominated (21% wt.) medium molecular weight epoxy resin, dissolved in methyl ethyl ketone
CHS-EPOXY® B 201 M 80	1,5–2,0	2,3–2,5	400–435	max. 0,1	max.1*	Prepregs for printed circuits boards, laminates, UV blocking	80% solution of brominated (21% wt.) medium molecular weight epoxy resin, dissolved in methyl ethyl ketone

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

EPOXY RESINS - SOLUTION

CHS-EPOXY® 101 X 60	2,5–5,0				max.5*	Air-drying coatings, in the mixture with melamine- formaldehyde resins for the formulation of baking coatings	Fast air drying 60% solution of epoxy ester
CHS-EPOXY® 200 M 75	0–2,0	1,9–2,3	435–525	max. 0,015	max.1*	Production of prepreges	Solution in methylethylketone
CHS-EPOXY® 200 M 80	2,5–5,5	2,0–2,4	410–500	max. 0,015	max.1*	Production of prepreges	Solution in methylethylketone
CHS-EPOXY® 210 X 75	5,0–12,0	2,0–2,3	445–500		max.1*	High performance 2K coating materials such as anticorrosion primers, baking coatings	75% solution in xylene
CHS-EPOXY® 222 IX 60	0,2–0,4	1,8–2,3	430–555		max.3*	Anticorrosive paint in marine and railway industry, gas industry, insulation of building, sewage pipes and reservoirs	60% solution in solvent blend, flexibilized
CHS-EPOXY® 301 X 80	5,5–7,5	2,7–3,3	300–370		max.1*	High solid coatings, anticorrosion primers, baking lacquers, treatment of metal surfaces	80% xylene solution of BPA based semisolid epoxy resin
CHS-EPOXY® 411 X 80	0,6–0,8	3,9–4,2	238–256		max.100	High solid coatings, anticorrosion primers, baking lacquers	80% xylene solution of BPA based semisolid epoxy resin
CHS-EPOXY® 520 M 80	0,04–0,05	4,1–4,4[3]	227–244[3]		max.300	High solid coatings, prepregs etc.	80% solution in methylethylketone

EPOXY RESINS FOR WATERBORNE SYSTEMS

💧 CHS-EPOXY® 160 V 55	0,1–1,0	1,25–1,80	555–800			Varnish and binder of paints for wood, wood fibre boards, concrete, metals and other materials	Water dispersion of a medium molecular weight epoxy resin
💧 CHS-EPOXY® 200 V 55	0,1–0,7	1,88–2,22	455–525			Varnish and binder of paints for wood, wood fibre boards, concrete, metals and other materials	Water dispersion of a low molecular weight epoxy resin

EPOXY RESINS BASED ON BPA/F

CHS-EPOXY® 501	0,6–0,8	5,0–5,3	188–200	max. 0,1	max.100	Composites, high solid, anticorrosion paints, civil engineering, casting	BPA/F resin modified by monofunctional reactive diluent
CHS-EPOXY® 514	0,8–1,1	5,1–5,4	185–196	max. 0,1	max.100	Composites, high solid, anticorrosion paints, civil engineering, casting	BPA/F resin modified by monofunctional reactive diluent
CHS-EPOXY® 571	6,0–8,0	5,4–5,7	175–185	max. 0,03	max.100	Coatings, penetrants, filled systems, casting applications and insulating materials	BPA/F epoxy resin
CHS-EPOXY® 572	4,5–7,0	5,5–5,8	172–182	max. 0,03	max.100	Coatings, penetrants, filled systems, casting applications and insulating materials	BPA/F epoxy resin
CHS-EPOXY® 573	8,0–10,5	5,3–5,6	179–189	max. 0,03	max.100	Coatings, penetrants, filled systems, casting applications and insulating materials	BPA/F epoxy resin
CHS-EPOXY® 574	1,4–1,7	5,5–5,75	174–182	max. 0,1	max.100	Composites, civil and electrical engineering, high-solid coatings	BPA/F resin modified by difunctional reactive diluent
CHS-EPOXY® 575	0,7–0,9	5,6–5,9	169–179	max. 0,1	max.100	Solventless coatings, penetrants, filled systems, casting applications and insulating materials, high solid coatings	BPA/F resin modified by difunctional reactive diluent

💧 waterborne

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

SPECIALTY EPOXY SYSTEMS

Our Specialty Epoxy Systems portfolio covers these applications:

– Electro & Electronics
– Composites
– Construction & Flooring

EnviPOXY® Systems FROM FOSSIL **TO RENEWABLES**

EnviPOXY® Systems are based on the liquid **EnviPOXY® Resin** containing the maximum renewable content of 33,5 %*.

Thanks to the experts in our R&D centers, we are ready to develop top performance products with **high renewable content** that address customer-specific needs.

*calculated value

EPOXY RESIN SYSTEMS FOR ELECTRO & ELECTRONICS

Product	Components	Mixing ratio (pbw)	Tg, DSC (°C)	Viscosity (mPa.s)	Pot-life	Description
INSULATORS, BUSHINGS, SWITCHGEAR						
CHS-EPODUR® 520-1787	A/B/C1/D1	100/90/0,5/5/360 [4]	105–115	5 000/60 °C	1–2 h/80 °C	Epoxy resin and special hardener with low tendency to crystalize. Preferred for high and medium voltage applications.
CHS-EPODUR® 494-1667	A/B/C2/D2	100/85/0,8/4/405 [4]	100–115	25 000/45 °C 8 000/60 °C	2 h/60 °C	Modified epoxy resin and hardener system suitable for high and medium voltage applications.
CHS-EPODUR® 494-1667	A/B/C2	100/77,5/0,8/345 [4]	110–125	18 000/45 °C 7 000/60 °C	2 h/60 °C	Modified epoxy resin and hardener system suitable for high and medium voltage applications.
CHS-EPODUR® 467-1637	A/B	100/75/345 [4]	105–115	6 000/60 °C	2 h/60 °C	Modified epoxy resin and hardener system suitable for high and medium voltage applications. "REACH free".
CHS-EPODUR® 466-1667	A/B/C2	100/80/0,6/370 [4]	105–115	7 000/60 °C	3 h/60 °C	Modified epoxy resin and special hardener with low tendency to crystalize. System with very good toughness.
CHS-EPODUR® 466-1667	A/B/C2	100/80/0,6/370 [4]	105–115	7 000/60 °C	3 h/60 °C	Modified epoxy resin and hardener system suitable for high and medium voltage applications.
INSTRUMENT & DISTRIBUTION TRANSFORMERS						
CHS-EPODUR® 520-1787	A/B/C1/D1	100/85/0,5/15/370 [4]	75–85	5 000/60 °C	1–2 h/80 °C	Epoxy resin and special hardener with low tendency to crystalize. System with very good toughness.
CHS-EPODUR® 531-1787	A/B/C1/D1	100/85/0,5/10/370 [4]	70–85	20 000/45 °C 8 500/60 °C	1–2 h/80 °C	Modified epoxy resin and special hardener with low tendency to crystalize. System with very good toughness and higher degree of filling.
CHS-EPODUR® 494-1667	A/B/C2/D4	100/85/0,6/17/385 [4]	60–75	4 000/60 °C	1–2 h/80 °C	Modified resin and hardener system. High degree of filling.
CHS-EPODUR® 494-1718	A/B/D1	100/77/5/340 [4]	85–95	18 000/45 °C 7 000/60 °C	1–2 h/80 °C	Modified epoxy resin and special hardener with low tendency to crystalize. System with very good toughness.
CHS-EPODUR® 464-1657	A/B	100/75/389 [4]	80–90	20 000/45 °C 8 500/60 °C	1–2 h/80 °C	Modified resin and hardener system. High degree of filling.
CHS-EPODUR® 494-1737	A/B	100/81/280 //4	90-105	3 500/60°C	2 h/80 °C	Modified epoxy resin and special hardener with low tendency to crystalize. System with very good toughness and longer pot-life.
OUTDOOR APPLICATIONS						
CHS-EPODUR® 560-1987	A/B/C1	100/90/0,5/360 [4]	90–100	5 000/60 °C	1–2 h/60 °C	Cycloaliphatic resin and modified hardener system with very good UV resistance.
CHS-EPODUR® 560-1987	A/B/C1/D1	100/90/0,5/10/370 [4]	80–90	5 000/60 °C	1–2 h/60 °C	Cycloaliphatic resin and modified hardener system with very good UV resistance. Improved toughness.
CHS-EPODUR® 560-1787	A/B/C2	100/90/0,4/375 [4]	80–90	5 000/60 °C	1–2 h/60 °C	Cycloaliphatic resin and modified hardener system with very good UV resistance. Excellent toughnes.
CHS-EPODUR® 560-1577	A/B/C2	100/90/0,5/370 [4]	105–115	6 000/60 °C	2 h/60 °C	Cycloaliphatic resin and hardener system with very good UV resistance. High Tg.
NEW CHS-EPODUR® 504-1577	A/B/C2/D5	100/82/0,5/10/371 [4]	75–95	2 500/60 °C	2 h/60 °C	Hydrophobic cycloaliphatic resin and hardener system with very good UV resistance.
NEW CHS-EPODUR® 561-1577	A/B/C2/D5	100/90/0,5/10/390 [4]	100–120	4 000/60 °C	2 h/60 °C	Hydrophobic cycloaliphatic resin and hardener system with very good UV resistance. High Tg.

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

Product	Components	Mixing ratio (pbw)	Tg, DSC (°C)	Viscosity (mPa.s)	Pot-life	Description
PREFILLED SYSTEMS						
SADURIT® 520-1988	A / B	100 / 100	110–125	3 500 / 60 °C	8 h/40 °C; 2–3 h/60 °C	Excellent crack resistance at low temperatures, good toughness. UL 94 HB. High Tg.
SADURIT® 520-1987	A / B	100 / 100	120–130	4 000 / 60 °C	6 h/40 °C; 1–2 h/60 °C	UL 94 V0. High Tg.
SADURIT® 494-1667	A / B	100 / 85	60–70	4 000 / 60 °C	6 h/40 °C; 2–3 h/60 °C	Excellent crack resistance at low temperatures, good toughness. UL 94 HB.
SADURIT® 560-1987	A / B	100 / 100	80–90	5 000 / 60 °C	6 h/40 °C; 1–2 h/60 °C	Cycloaliphatic resin for outdoor application. Excellent crack resistance at low temperatures, good toughness. UL 94 HB.
LOW VOLTAGE CASTING, ENCAPSULATING AND POTTING						
SADURIT® 531-0522	A / B	100 / 13	100–110	6 000 / 25 °C	2 h/25 °C/1 000 g	Room temperature cured modified resin system, long potlife. 2K with prefilled component A.
SPECIAL CASTING SYSTEMS						
VEROPAL 520-1987	A / B	100 / 220	95–110	4 000 / 25 °C; 400 / 60 °C	4 h/60 °C	Prefilled – 2K system with prefilled hardener. Low viscosity system.
VEROPAL 520-1668	A / B	100 / 220	95–110	4 000 / 25 °C; 400 / 60 °C	4 h/60 °C	Prefilled – 2K system with prefilled hardener. Low viscosity system. Excellent crack resistance.
CHS-EPODUR® 520-1997	A / B / C3	100 / 95 / 0,5 / 350[4]	165–175	5 000 / 60 °C	4 h/60 °C	Epoxy resin and special hardener with high Tg.

Product	Mixing ratio (pbw)	Tg, DSC (°C)	Pot-life	Shear strength (MPa)	Description
ADHESIVES FOR ELECTRO					
VEROBOND® 520-2608	100 / 140	70–80	20 min/25 °C/50g	20–25	Structural adhesive with high elongation up to 55% and with excellent peel and shear strength.
VEROBOND® QUICK	100 / 100	50–60	3 min/25 °C/10g	10–12	Unique, very fast epoxy adhesive (5 minutes curing time).
VEROBOND® SUPER	100 / 100	70–80	20 min/25 °C/10g	20–24	2K epoxy structural adhesive with high elongation up to 55% and excellent mechanical properties – peel strength and shear strength. Prefilled.
VEROBOND® 14	100 / 50	80–85	60 min/25 °C/100g	20–24	Epoxy thixotropic adhesive or casting systems, cured at room temperature. System with high strength with good chemical resistance. Prefilled.
VEROBOND® 15	100 / 100	60–70	25 min/25 °C/100g	20–24	Unique hybrid epoxy 2K structural adhesive with high elongation and excellent mechanical properties – peel strength and shear strength. Prefilled.

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

Product	Colour	Usage	Description
PIGMENT PASTES			
E-pasta BF 135M-BA	RAL3013	indoor	Tomato red
E-pasta BF 160M-BA	RAL3011	indoor	Brown red
E-pasta BF 1135M-OD	RAL3013	outdoor	Tomato red
E-pasta BF 661-BA	RAL8016	indoor	Mahagony Brown
E-pasta BF 686-BA	RAL8017	indoor	Chocolate brown
E-pasta BF 1660-OD	RAL8016	outdoor	Mahagony Brown
E-pasta BF 318-BA	RAL9011	indoor	Grafite black
E-pasta FW 200-BA	RAL9017	indoor	Traffic black
E-pasta KRBF 2478-BA	RAL7024	indoor	Grafite gray
E-pasta MIX 7001-BA	RAL 7001	indoor	Silver grey
E-pasta BF 1318-OD	RAL9011	outdoor	Grafite black
E-pasta KRBF 4478-OD	RAL7024	outdoor	Grafite gray
E-pasta MIX 7035-OD	RAL7035	outdoor	Light grey
E-pasta HB 550-BA	RAL5002	indoor	Ultramarine blue

Product	Components	Mixing ratio (pbw)	Tg, DSC (°C)	Gel Time (10g/50g min)	Description
SUPPLEMENTARY PRODUCTS					
VEROPAL 520-T17M	A / B	100 / 17	90–110	10–20 / 5–10	Repairing epoxy system for indoor applications. Component A with common filler and component B without filler.
VEROPAL 560-T17M	A / B	100 / 14	80–95	10–20 / 5–10	Repairing epoxy system for indoor applications. Component A with wollastonite filler and component B without filler.
VEROPAL T520-T17M	A / B	100 / 34	90–110	10–20 / 5–10	Fixation thixotropic epoxy system for indoor applications. Component A and B without filler.

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

EPOXY RESIN SYSTEMS FOR COMPOSITES

Product	Components	Mixing ratio (pbw)	Tg, DSC (°C)	Viscosity (mPa.s)	Pot-life	Description
FILAMENT WINDING & PULTRUSION SYSTEMS						
CHS-EPODUR® 494-1667	A/B/C2	100/85/1	115–125	500–1 000 [5]	> 10 h/25 °C	Medium viscosity. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 520-1687	A/B/C2	100/90/1	130–145	500–1 000 [5]	> 10 h/25 °C	Long pot life, medium viscosity. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 520-1667	A/B/C2	100/85/1	115–130	500–1 000 [5]	> 10 h/25 °C	Medium viscosity. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 520-1997	A/B/C3	100/95/1	165–175	1 000–1 200 [5]	> 10 h/25 °C	High thermal resistance. Post curing above 160 °C
CHS-EPODUR® 520-1787	A/B/C1/D1	100/85/0,5/10	85–95	1 500–2 000 [5]	> 10 h/25 °C	High mechanical properties, long pot life. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 574-0522	A/B	100/30	85–100	200–500 [5]	1–2 h/25 °C	Curing at ambient temperature, slow reactivity
HAND LAY-UP, INFUSION & INJECTION SYSTEMS, RTM						
CHS-EPODUR® 582-0512/0492/0502/0482/0590	A/B	100/30	90–115	200–400 [5]	0,3–4 h/25 °C	Combination of one resin with five hardeners, low viscosity, fast to slow reactivity. Optimal for infusion
CHS-EPODUR® 574-0512/0492/0502/0482/0590	A/B	100/28	90–115	350–650 [5]	0,3–4 h/25 °C	Combination of one resin with five hardeners, medium viscosity, fast to slow reactivity. Optimal for hand lay-up
CHS-EPODUR® 581-0542/0562	A/B	100/32	80–85	200–250 [5]	1–2 h/25 °C	Combination of one resin with two hardeners, low viscosity, fast to slow reactivity. Optimal for wind mill blades
CHS-EPODUR® 582-0600	A/B	100/37	130–150	350–550 [5]	2–3 h/25 °C	Slow reactivity, low viscosity, high mechanical properties
CHS-EPODUR® 582-0420	A/B	100/25	120–130	300–450 [5]	0,5–1 h/25 °C	Medium reactivity, low viscosity, high mechanical properties
CHS-EPODUR® 619-0600	A/B	100/40	115–130	200–500 [5]	2–3 h/25 °C	Slow reactivity, high mechanical properties. Optimal for hand lay-up
CHS-EPODUR® 619-0492	A/B	100/32	80–90	200–500 [5]	12–30 min/25 °C	Medium reactivity, high mechanical properties. Optimal for hand lay-up
CHS-EPODUR® 621-0600	A/B	100/40	115–130	500–800 [5]	0,5–1 h/25 °C	Slow reactivity, high mechanical properties. Optimal for hand lay-up
CHS-EPODUR® 621-0492	A/B	100/32	85–100	300–500 [5]	20–40 min/25 °C	Medium reactivity, high mechanical properties. Optimal for hand lay-up
CHS-EPODUR® 520-1787	A/B/C1/D1	100/85/0.5/10	85–95	1 500–2 000 [5]	> 10 h/25 °C	High mechanical properties, long pot life. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 520-1687	A/B/C2	100/90/1	130–145	5 500–1 000 [5]	> 10 h/25 °C	Long pot life, low viscosity. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 520-1667	A/B/C2	100/85/1	115–130	500–1 000 [5]	> 10 h/25 °C	Low viscosity. Curing at higher temperature (at least 80 °C)
CHS-EPODUR® 520-1997	A/B/C3	100/95/1	165–175	1 000–1 200 [5]	> 10 h/25 °C	High thermal resistance. Post curing above 160 °C
CHS-EPODUR® 574-0904	A/B	100/50	70–80	1 600–2 200 [5]	12-15 min/25°C	Laminated system with medium viscosity. High adhesion to dural, steel and other metal surfaces.

All products are also available as EnviPOXY® — Epoxy Resins with a renewable content up to 33,5%

PREPREG MATRIX SYSTEMS

Product	Components	Mixing ratio (pbw)	Tg, DSC (°C)	Viscosity (mPa.s)	Pot-life	Description
CHS-EPODUR® 525-0269	A / B / C55	100 / 12 / 0–3	115–135	14 000 / 23 °C 1 500 / 40 °C	2–8 h /25 °C [12]	Solvent-free epoxy prepregging system with chemically induced B-stage, adjustable tack/ drapability. For cold, simple equipped processing. Recommended for general industrial and sport & leisure applications.
NEW CHS-EPODUR® 411-0269	A / B / C55	100 / 9 / 0–2	120–128	9 800 / 55 °C 2 700 / 70 °C	0,5–2 h /25 °C [12]	Solvent-free epoxy system for hot-melt prepregging, adjustable tack. For industrial and sport & leisure composite applications.
NEW CHS-EPODUR® N 554-0249	A / B / C55	100 / 10 / 0–3	120–165	10 000 / 40 °C 2 000 / 55 °C	1–4 h /25 °C [12]	Solvent-free epoxy system for hot-melt prepregging, adjustable tack/drapability. For applications with higher temperature resistence.

ADHESIVES FOR COMPOSITEST

Product	Components	Mixing ratio (pbw)	Tg, DSC (°C)	Shear strength (MPa)	Pot-life	Description
VEROBOND® QUICK	A / B	100 / 100	50–60	10–12	3 min/25 °C/10g	Unique, very fast epoxy adhesive (5 minutes curing time)
VEROBOND® 520-2608	A / B	100 / 100	70–80	20–25	20 min/25 °C/50g	Structural adhesive with high elongation up to 55% with excellent peel and shear strength
VEROBOND® SUPER	A / B	100 / 50	80–85	20–24	20 min/25 °C/10g	Structural adhesive with high elongation up to 55% with excellent peel and shear strength
VEROBOND® 14	A / B	100 / 100	60–70	20–24	60 min/25 °C/100g	Epoxy adhesive cured at room temperature. Systems is a thixotropic paste of high strength with good chemical resistance
VEROBOND® 15	A / B	100 / 140	70–80	20–24	25 min/25 °C/100g	Hybrid epoxy structural adhesive with high elongation and excellent peel and shear strengths
VEROBOND® 531-0903	A / B	100 / 50	50–60	15–20	35 min/25 °C/400g	Epoxy adhesive with low viscosity, cured at room temperature. Optimal for chemical anchors
VEROBOND® 521-0846	A / B	100 / 50	60–70	6–8	28 min/25 °C/15g	2K epoxy structural adhesive. It is used for structural bonding of a wide range of substrates, especially metals, metal structures, wood and ceramics

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

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EPOXY RESIN SYSTEMS FOR CONSTRUCTION & FLOORING

Product	Components	Mixing ratio (pbw)	Application	Description
COATING SYSTEMS				
IMPREGNATION & PRIMERS				
💧 EPOSTYL® 200 V	A / B	100 / 26 [6]	Primer/penetrating sealer	Waterborne epoxy dispersion
💧 CHS-EPOSTYL® 521-2433	A / B	100 / 140 [6]	Primer/penetrating sealer	Solvent–free water-based epoxy system
CHS-EPODUR® 474 PRIMER	A / B	100 / 23	Bonding agent, primer for bridges, roads, pavements, flooring	Low viscosity epoxy system, penetration, adhesion and water control insulation
NEW CHS-EPODUR® 474 PRIMER FAST	A / B	100 / 40	Bonding agent, primer	Low viscosity epoxy system, for use at lower temperature
NEW SADURIT® 474 PRIMER	A/B	100/14	Prefilled penetration coating for concrete substrates	Prefilled epoxy system
INDUSTRIAL FLOOR TOPCOATS				
SADURIT® Z 1	A / B	100 / 25	Coloured coating systems, high mechanical & chemical resistance, interior/exterior	Solvent based epoxy system. Different colours upon request (based on RAL).
💧 EPOSTYL® 215 V	A / B	100 / 14 [6]	Matt topcoat system for concrete, useable in poorly ventilated rooms, vapour permeable	Waterborne epoxy system. Different colours upon request (based on RAL).
EPOSTYL® 521-01	A / B	100 / 30	Coloured coating system with higher UV resistance	Solvent–free epoxy system. Different colours upon request (based on RAL).
💧 EPOSTYL® 200 V MAT	A / B	100 / 21 [6]	Matt top coat for flooring, parquets and other surfaces	Waterborne matt coating
TRANSPARENT LACQUERS				
💧 EPOSTYL® 200 V	A / B	100 / 26 [6]	Glossy topcoat for interior applications on wood, concrete and metal	Waterborne epoxy dispersion
💧 EPOSTYL® 200 V MAT	A / B	101 / 21 [6]	Matt topcoat for flooring, parquets and other surfaces	Waterborne matt coating
FLOORING SYSTEMS				
DECORATIVE FLOORING				
EPOSTYL® 521-01	A / B	100 / 30	Universal pigmented epoxy self-levelling flooring system	Solvent–free epoxy system. Different colours upon request (based on RAL).
EPOSTYL® GRANIT	A / B / C	70 / 30 / 150	High decorative epoxy self-levelling flooring system-granite design	Solvent–free epoxy system, excellent appearance
INDUSTRIAL & ANTI-STATIC FLOORS				
EPOSTYL® 521-01	A / B	100 / 30	Universal pigmented epoxy self-levelling flooring system	Solvent–free epoxy system. Different colours upon request (based on RAL).
EPOSTYL® 521-01 AS	A / B	100 / 30	Pigmented self-levelling flooring system, chemically resistant and antistatic. Suitable for interior.	Solvent–free epoxy system
EPOSTYL® 521 FLEX	A / B	100 / 72	Self-levelling and gravelled flooring and coatings for covering of cracks, for garages and interiors	Natural rubber epoxy system with excellent ductility above 70% and stratch resistance
BINDERS FOR STONE CARPET				
CHS-EPODUR® STONE	A / B	100 / 43 [7]	Pavements, flooring	Special epoxy system for stone carpets
CHS-EPODUR® STONE UV	A / B	100 / 43 [7]	Pavements, flooring	Special epoxy system for stone carpets, improved UV stability
CHS-EPODUR® STONE GEL	A / B	100 / 40	Stone carpet finishing gel	Special thixotropic epoxy system for finishing stone carpet

💧 waterborne

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Product	Hardener	Components	Mixing ratio (pbw)	Application	Description
BINDERS FOR POLYMERCONCRETE & POLYMERMORTAR					
CHS-EPOXY® 455	TELALIT® 0240		100 / 10[7]	Binder for polymer mortars and concretes, adhesives	Solvent–free epoxy system with high chemical resistance
	TELALIT® 0492		100 / 23[7]	Binder for polymer mortars and concretes, coatings, chemical anchors	Solvent–free epoxy system, accelerated, excellent mechanical properties
	TELALIT® 0846		100 / 39[7]	Binder for polymer mortars and concretes, adhesives	Solvent–free epoxy system with high chemical resistance
CHS-EPOXY® 474	TELALIT® 0846		100 / 40[7]	Binder for polymer mortars and concretes, coatings, chemical anchors	Solvent–free epoxy system, accelerated, excellent mechanical properties, very fast hardening
	TELALIT® 0492		100 / 23[7]	Chemical anchors, polymer concretes and mortars	Special solvent–free epoxy system, low temperature, wet condition, very fast hardening
CHS-EPOXY® 512	TELALIT® 0240		100 / 10[7]	Very fast curing time in low temperature, fast sandability	Standard epoxy system, low temperature, wet conditions
	TELALIT® 0846		100 / 39[7]	Penetration with interlayer, adhesive bridge	Standard epoxy system, wet conditions, very fast hardening
CHS-EPOXY® 517	TELALIT® 0240		100 / 11[7]	Binder for polymer mortars and concretes, adhesives	Solvent–free epoxy system with high chemical resistance
	TELALIT® 0846		100 / 44[7]	Chemical anchors, polymer concretes and mortars	Special solvent–free epoxy system, low temperature, wet condition, very fast hardening
CHS-EPOXY® 531	TELALIT® 0240		100 / 12[7]	Binder for polymer mortars and concretes	Solvent-free system with high chemical resistance
	TELALIT® 0846		100 / 47[7]	Very fast curing in standard temperature, using in low temperature, fast sandability	Solvent-free system, low temperature, wet conditions, very fast hardening
ADHESIVES FOR CONSTRUCTION					
CHS-EPOXY® 512	TELALIT® 0240		100 / 10	For standard temperatures & higher chemical resistance	Epoxy bonding agent for fixing of metal parts into mortar constructions
CHS-EPOXY® 324	TELALIT® 0240		100 / 7	For standard temperatures, good chemical resistance	Special phthalate-free epoxy system for adhesive composition and construction sealant
CHS-EPOXY® 324	TELALIT® 0343		100 / 11	Adhesive for metal, wood, glass	Standard system, higher viscosity, balanced shear and peel strenght, resistant up to 60 °C
VEROBOND® 520-2608		A / B	100 / 140	Universal adhesive for various type of materials, including thermo-plastics and composites	High toughness, excellent peel streght, resistance up to 95 °C
VEROBOND® 531-0903		A / B	100 / 50	Optimal for chemical anchors	Epoxy adhesive with low viscosity, cured at room temperature
VEROBOND® QUICK		A / B	100 / 100	Universal adhesive for various type of materials	Unique, very fast epoxy adhesive (5 minutes curing time)
VEROBOND® SUPER		A / B	100 / 100	Universal adhesive for various type of materials, including thermo-plastics and composites	Adhesive with excellent shear and peel strenght, resistant up to 85 °C
VEROBOND® 14		A / B	100 / 50	Adhesive for various type of materials	Epoxy adhesive or casting systems, cured at room temperature. Systems is a thixotropic paste adhesive of high strength with good chemical resistance
VEROBOND® 15		A / B	100 / 100	Adhesive for various type of materials	Hybrid epoxy structural adhesive with high elongation and excellent peel and shear strengths

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

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HARDENERS

	Product	Viscosity (mPa.s, 25 °C)	Amine number (mg KOH/g)	HEW (g/mol)	Application	Description
NEW	TELALIT® 0240	5–50		24	Standard, civil engineering, composites, adhesives	Aliphatic amine, substitution of CHS-HARDENER P 11
	TELALIT® 0420	10–25	600–650	42	Composites, higher Tg	Cycloaliphatic amine
	TELALIT® 0430	5–50	1 250–1 320	43	Composites, civil engineering, faster curing, higher toughness	Cycloaliphatic amine
	TELALIT® 0492	15–30	550–600	49	Composites, civil engineering	Cycloaliphatic modified
	TELALIT® 0500	5–50	1 100–1 200	50	Composites, accelerated	Cycloaliphatic amine
	TELALIT® 0590	5–10	440–490	59	Composites, long pot life	Polyoxyetheramine
	TELALIT® 0600	80–120	450–500	62	High performance composites, long pot life, highest Tg	Cycloaliphatic, modified
	TELALIT® 0842	1 100–1 900	min.290	84	Hardening in wet conditions, applicable in different weather conditions	Solvent-free system, under water curing
	TELALIT® 0846	550–750	345–375	84	Universal hardener for epoxy systems, applicable in lower temperatures, unsuitable for food, beverages and drinking water	Mannich base without phenol, substitution of TELALIT® 60
	TELALIT® 0903	200–500	320–350	90	Self-levelling flooring, nonylphenol free, low yellowing	Cycloaliphatic adduct modified
	TELALIT® 1040	10–30	230–260	104	Waterborne coatings, high solid coatings, nonylphenol free	Polyoxyetheramine
	TELALIT® 1203 NF	50–400	250–300	120	For high solid coatings, nonyl phenol free	Cycloaliphatic adduct, modified
NEW	TELALIT® 3509 IX 50	200–700	110–135	350	Lacquers, anticorrosive coatings	Aliphatic adduct modified, substitution of TELALIT 160
NEW	TELALIT® 2433 VBG 50	1 000–2 000	130–150	243	Waterborne systems	Polyamine adduct modified, substitution of TELALIT 180
	TELALIT® 2608	5 000–7 000	95–115	260	High performance super toughness adhesives	Aliphatic and cycloaliphatic based modified
	TELALIT® 3404 X 70	700–2 000	145–165	340	Anticorrosive coatings, nonylphenol free	Polyamide
	TELALIT® 0343	400–1 200	850–1 200	34	Composites, civil engineering	Aliphatic adduct
	TELALIT® 95	170–400	300–500	95	Self-levelling flooring	Cycloaliphatic adduct modified

REACTIVE DILUENTS

Product	Viscosity (mPa.s, 25 °C)	EPOXY index (mol/kg)	Hydrolyzable chlorine (%)	Colour (APHA, Gardner*)	Application	Description
CHS-EPOXY® RR 300	40–90	2,90–3,30	max. 0,3	max.2*	Flexibilizer, low toxicity and vapour pressure, reduced reactivity, limited diluting power	Polypropyleneglycol diglycidyl ether
CHS-EPOXY® RR 330	5–10	2,94–3,70	max. 0,1	max.1*	Low toxicity and vapour pressure, good diluting power, reduced reactivity	C12-C14 alkyl glycidyl ether
CHS-EPOXY® RR 430	1–6	4,25–4,55	max. 0,05	max.1*	Low toxicity and vapour pressure, good diluting power, reduced reactivity	C8-C10 alkyl glycidyl ether
CHS-EPOXY® RR 690	130–200	7,20–7,70	max. 0,1	max.1*	Excellent mechanical strength and reactivity, hot water and solvent resistance, limited diluting power	Trimethylol propane triglycidyl ether
CHS-EPOXY® RR 700	15–25	6,70–7,20	max. 0,2	max.1*	Excellent reactivity at low temperatures and good solvent resistance, high mechanical strength, limited acid resistance	1, 6-hexanediol diglycidyl ether
CHS-EPOXY® RR 800	10–25	7,60–8,10	max. 0,2	max.1*	Excellent reactivity at low temperatures and good solvent resistance, high mechanical strength, limited acid resistance	1, 4-butanediol diglycidyl ether

SPECIAL ADDITIVES – DECIDOL®

Under the trade name DECIDOL® we offer a range of acetyl alcohol-based surfactants ideally suited as a wetting agent and defoamer. These products fundamentally reduce surface tension, improve the wetting of surfaces, including hydrophobic substrates, regulate the formation of foam and help to stabilize the viscosity of the paint. The additives are non-toxic, silicone-free and fully compliant with REACH regulations.

DECIDOL® is available as a highly pure product or as solutions in different concentrations of solvents such as monoethylene glycol (MEG) and propylene glycol (PG), which we are able to produce according to customer requirements.

DECIDOL®

Product	Colour (APHA)	Concentration of H_2O (%)	TMDD Content (%)	MIBK Content (%)	HIOL Content (%)	Description
DECIDOL®	150	max. 1	min. 98	max. 0,25	max. 0,45	White solid substance with menthol odour.

DECIDOL® Blends

Product	Colour (Gardner)	Concentration of H_2O (%)	Density at 20 °C (kg/m³)	Description
DECIDOL® 105 MEG	4	max. 0,7	980–1 010	Colorless to light yellow, transparent liquid, slightly soluble in water, containing 50 % TMDD and 50 % MEG (Monoethylene glycol).
DECIDOL® 107 MEG	4	max. 0,7	945–965	Colorless to light yellow, transparent liquid, slightly soluble in water, containing 75 % TMDD and 25 % MEG (Monoethylene glycol).
DECIDOL® 105 PG	4	max. 0,7	955–975	Colorless to light yellow, transparent liquid, slightly soluble in water, containing 50 % TMDD and 50 % PG (Prophylene glycol).

ALKYD & ROSIN RESINS

We have over 70 years of tradition as a manufacturer of alkyd resins produced using fusion technology (aromatic free products). Our wide-ranging product portfolio includes long, medium, and short oil alkyds which are either waterborne (CHS-HYDROSPOL®), solventborne, high solid, or solvent-free (CHS-ALKYD®).

In addition to the standard assortment of solventborne alkyds, our portfolio includes the following types of sustainable and environmentally friendly alkyds:

- **high BIO content up to 92%**
- **solvent-free**
- **high solid with low VOC**
- **waterborne**

Our R&D teams work hard on to develop products that add real value to your business. This effort has resulted in a portfolio of special tailor made alkyd resins with exceptional properties; these alkyd resins have proven high-performance properties while respecting aesthetic, protective, and application requirements.

BINDERS FOR INDUSTRIAL COATINGS

Product	Oil length (%)	Type of Oil or FA	Solvent	Viscosity (Pa.s, 23 °C)	Non-volatile content (%)	Acid value (mg KOH/g)	Colour (I_2 mg/100 cm^3)	Description
CHS-ALKYD® F 261 X 60	26	Vegetable drying oil	X	2,0–3,0	59,0–61,0	max.8	max.5	Fast-drying universal alkyd, excellent corrosion protection and mechanical properties, high hardness, low yellowing
CHS-ALKYD® AKS 261 X 60	26	Vegetable drying oil	X	1,0–3,0	58,0–62,0	max.10	max.7	Acrylated alkyd, super fast-drying, superior corrosion resistance, low yellowing, improved flexibility
CHS-ALKYD® AL 3964	28	Linoleic rich FA, DCO	BuGB	13,0–18,0[8]	69,0–71,0	38–42	max.8	Water reducible alkyd, primers, topcoats and one-layer coatings (air dry, force dry, baking with melamine resins)
CHS-ALKYD® AL 3220	32	Coconut	M	0,9–1,5[9]	74,0–76,0	max.10	max.10	Stoving alkyd resin, wood and metal low yellowing coatings
CHS-ALKYD® C 351 E 75	39	FA	E	3,5–4,5	73,5–76,5	max.7	max.10	Stoving alkyd resin, for baking or nitrocelulose coatings
CHS-ALKYD® C 351 X 60	39	FA	X	0,7–1,3	58,0–62,0	max.6	max.10	Stoving alkyd resin, for baking or nitrocelulose coatings.
CHS-ALKYD® TU 341 X 60	34	TOFA, DFA	X	2,0–5,0	58,0–62,0	max.7	max.8	High performance anticorrosive coatings
CHS-ALKYD® AL 3701	37	TOFA	X	1,9–2,5	59,0–61,0	13–18	max.30	Lift resistant primer (air dry, force dry, baking), anticorrosive and rust resistant coatings, topcoats and one-layer application, as putties and fillers. High hardness
CHS-ALKYD® S 401 X 55	40	Vegetable drying oil	X	0,8–1,2	53,5–56,5	max.7	max.8	Economic primers and anticorrosive coatings
CHS-ALKYD® S 401 X 60	40	Vegetable drying oil	X	2,0–4,0	58,5–61,5	max.7	max.7	Economic primers and anticorrosive coatings
NEW CHS-ALKYD S 405 N 60	40	Vegetable drying oil	N	3,0–7,0	59,0–61,0	max.8	max.10	Binder for solventbortne non-aromatic primers, anticorrosive coatings and enamels, especially for metal substrates.
NEW CHS-ALKYD S 405 NN 55	40	Vegetable drying oil	NN	3,0–7,0	54,0–56,0	max.8	max.10	Binder for solventbortne non-aromatic primers, anticorrosive coatings and enamels, especially for metal substrates.
CHS-ALKYD® S 471 WX 55	47	Vegetable drying oil	WX	2,9–5,3	53,5–56,5	max.5	max.8	Economic primers and anticorrosive coatings, for fast overcoating primers
CHS-ALKYD® S 471 X 60	47	Vegetable drying oil	X	0,8–1,7	58,0–62,0	max.6	max.8	Economic primers and anticorrosive coatings
NEW CHS-ALKYD® S 475 X 70	47	Vegetable drying oil	X	2,0–5,5	68,0–72,0	max. 10	max.12	Anticorrosion primers with **low VOC content**
NEW CHS-ALKYD® S 475 NN 65	47	Vegetable drying oil	NN	4,0–9,0	64,0–66,0	max. 10	max.15	Solventborne **non-aromatic primers**, anticorrosive coatings and one-layer coatings
CHS-ALKYD® S 491 W 55	49	Vegetable drying oil	W	2,5–5,5	54,0–56,0	max.6	max.8	Economic primers and anticorrosive coatings
CHS-ALKYD® TU 497 S 57	49	TOFA	S	1,5–4,0	55,5–58,5	max.4	max.8	Fast drying & corrosion resistant, weathering resistance and outstanding adhesion, primers & single-layer coatings for iron and light metals
CHS-ALKYD® M 552 WX 60	55	Linseed	WX	0,45–0,95	58,5–61,5	max.7	max.15	Lift resistant alkyd modified by novolac rosin resin, improved adhesion and chemical resistance, anticorrosion primers
CHS-ALKYD® SU 621 N 50	62	Vegetable drying oil	N	0,5–2,0	48,5–51,5	max.7	max.7	Fast-drying urethanised alkyd, **aromatic content less than 1%**
CHS-ALKYD® S 622 X 70	62	Vegetable drying oil	X	2,0–3,0	68,0–72,0	max.7	max.10	For air-drying coatings, mainly enamels, lacquers and wood stains for indoor and outdoor application.
CHS-ALKYD® SU 632 N 60	63	Vegetable drying oil	N	0,9–1,5	57,0–59,0	max.2	max.10	Fast drying, outstanding hardness and mar resistance, excellent mechanical properties and weather-resistance, wood & metal
CHS-ALKYD® SU 632 NN 55	63	Vegetable drying oil	NN	0,8–1,6	55,0–57,0	max.2	max.10	Fast drying, outstanding hardness and mar resistance, excellent mechanical properties and weather-resistance, wood & metal, **aromatic content less than 1%**
CHS-ALKYD® SU 671 W 60	67	Vegetable drying oil	W	2,0–4,0	58,0–62,0	max.1	max.8	Fast-drying urethanised alkyd for coatings with high hardness
CHS-ALKYD® AL 2460	72	Linseed	NN	0,2–0,4	69,0–71,0	32–40		Binder for foundry sand moulds

low VOC

Product Notes: **1** Viscosity of 70% solution in butylglycol/ 25°C, **2** Viscosity of 40% solution in butylglycol/25°C, **3** In a solution, **4** Recommended mixing ration with filler, **5** Viscosity at 25°C (Brookfield), **6** System (part A:B) has to be mixed with water in the recommended correct ration - see Application Sheet, **7** System (part A:B) can be filled with additional filler in the recommended correct ratio - see Application Sheet, **8** Viscosity (Pa.s, 25°C), **9** Viscosity (Pa.s, 20°C), **10** 50% Xylene solution, **11** In time of loading, **12** Depends on technology used, (pbw) parts by weight.

BINDERS FOR DECORATIVE COATINGS

Product	Oil length (%)	Type of Oil or FA	Solvent	Viscosity (Pa.s, 23 °C)	Non-volatile content (%)	Acid value (mg KOH/g)	Colour (I_2 mg/100 cm^3)	Description
CHS-ALKYD® F 261 X 60	26	Vegetable drying oil	X	2,0–3,0	59,0–61,0	max.8	max.5	Fast-drying universal alkyd, excellent corrosion protection and mechanical properties, high hardness, low yellowing
CHS-ALKYD® AKS 261 X 60	26	Vegetable drying oil	X	1,5–5,0	58,0–62,0	max.10	max.7	Acrylated and styrenated alkyd, super fast-drying, superior corrosion resistance, low yellowing, improved flexibility
CHS-ALKYD® S 401 X 55	40	Vegetable drying oil	X	0,8–1,2	53,5–56,5	max.7	max.8	Economic primers and anticorrosive coatings
CHS-ALKYD® S 401 X 60	40	Vegetable drying oil	X	2,0–4,0	58,5–61,5	max.7	max.7	Economic primers and anticorrosive coatings
NEW CHS-ALKYD® S 405 N 60	40	Vegetable drying oil	N	3,0-7,0	59,0-61,0	max.8	max.10	Binder for solventbortne non-aromatic primers, anticorrosive coatings and enamels, especially for metal substrates.
NEW CHS-ALKYD® S 405 NN 55	40	Vegetable drying oil	NN	3,0-7,0	54,0-56,0	max.8	max.10	Binder for solventbortne non-aromatic primers, anticorrosive coatings and enamels, especially for metal substrates.
CHS-ALKYD® S 471 WX 55	47	Vegetable drying oil	WX	2,9–5,3	53,5–56,5	max.5	max.8	Economic primers and anticorrosive coatings, for fast overcoating primers
CHS-ALKYD® S 471 X 60	47	Vegetable drying oil	X	0,8–1,7	58,0–62,0	max.6	max.8	Economic primers and anticorrosive coatings
NEW CHS-ALKYD® S 475 X 70	47	Vegetable drying oil	X	2,0–5,5	68,0–72,0	max. 10	max. 12	Anticorrosion primers with **low VOC content**
NEW CHS-ALKYD® S 475 NN 65	47	Vegetable drying oil	NN	4,0–9,0	64,0–66,0	max. 10	max. 15	Solventborne **non-aromatic primers**, anticorrosive coatings and one-layer coatings
CHS-ALKYD® S 491 W 55	49	Vegetable drying oil	W	2,5–5,5	54,0–56,0	max.6	max.8	Economic primers and anticorrosive coatings
NEW CHS-ALKYD® TU 497 S 57	49	TOFA	S	1,5–4,0	55,5–58,5	max.4	max.8	Fast drying & corrosion resistant, weathering resistance and outstanding adhesion, primers & single-layer coatings for iron and light metals
CHS-ALKYD® T 501 WX 55	50	TOFA	WX	1,2–2,0	53,5–56,5	max.8	max.7	Maleinised fast-drying alkyd
CHS-ALKYD® M 552 WX 60	55	Linseed	WX	0,45–0,95	58,5–61,5	max.7	max.15	Lift resistant alkyd modified by novolac rosin resin, improved adhesion and chemical resistance, anticorrosion primers
CHS-ALKYD® ST 551 NN 50	55	Vegetable drying oil	NN	THIXO-TROPIC	48,5–51,5	max.8	slight opacity	High thixotropy alkyd, **aromatic content less than 1%,** flash point over 61 °C, polyamide type
CHS-ALKYD® S 621 W 60	62	Vegetable drying oil	W	1,1–2,3	58,5–61,5	max.7	max.7	Outdoor durability, wood coatings
CHS-ALKYD® SU 621 N 50	62	Vegetable drying oil	N	0,5–2,0	48,5–51,5	max.7	max.7	Fast-drying urethanised alkyd, **aromatic content less than 1%**
CHS-ALKYD® S 622 N 60	62	Vegetable drying oil	N	3,7–4,7	58,5–61,5	max.7	max.7	Outdoor durability, universal, **aromatic content less than 1%**
CHS-ALKYD® S 622 X 70	62	Vegetable drying oil	X	2,0–3,0	68,0–72,0	max.7	max.10	For air-drying coatings, mainly enamels, lacquers and wood stains for indoor and outdoor application.
CHS-ALKYD® S 623 NN 50	62	Vegetable drying oil	NN	0,31–0,56	48,5–51,5	max.5	max.10	Alkyd resin for lacquers and wood stains, interior/exterior applications
CHS-ALKYD® S 623 NN 60	62	Vegetable drying oil	NN	2,5–6,5	60,0–62,0	max.7	max.10	Universal alkyd resin, **aromatic content less than 1%**
CHS-ALKYD® SU 632 N 60	63	Vegetable drying oil	N	0,9–1,5	57,0–59,0	max.2	max.10	Fast drying, outstanding hardness and mar resistance, excellent mechanical properties and weather-resistance, wood & metal
CHS-ALKYD® SU 632 NN 55	63	Vegetable drying oil	NN	0,8–1,6	55,0–57,0	max.2	max. 10	Fast drying, outstanding hardness and mar resistance, excellent mechanical properties and weather-resistance, wood & metal, **aromatic content less than 1%**

Product	Oil length (%)	Type of Oil or FA	Solvent	Viscosity (Pa.s, 23 °C)	Non-volatile content (%)	Acid value (mg KOH/g)	Colour (I_2 mg/100 cm^3)	Description
BINDERS FOR DECORATIVE COATINGS								
CHS-ALKYD® S 651 N 70	65	Vegetable drying oil	N	5,5–9,5	68,0–72,0	max. 7	max. 8	Air-drying enamels, lacquers and wood stains for outdoor application
CHS-ALKYD® S 652 NN 70	65	Vegetable drying oil	NN	9,0–11,0	68,0–72,0	max.7	max.8	Outdoor durability, **aromatic content less than 1%,** flash point over 61 °C
CHS-ALKYD® S 653 W 70	65	Vegetable drying oil	W	12,0–14,0	69,0–71,0	max.7	max.8	Air-drying high molecular weight alkyd with outdoor resistance in white spirit
CHS-ALKYD® SU 671 W 60	67	Vegetable drying oil	W	2,0–4,0	58,0–62,0	max.1	max.8	Fast-drying urethanised alkyd for coatings with high hardness
CHS-ALKYD® S 670 NN 75	67	Vegetable drying oil	NN	2,5–3,5	74,0–76,0	max.7	max.10	Soya bean oil fatty acids based alkyd, flash point over 61 °C, air drying top-coats for exterior, wood and metal surfaces
CHS-ALKYD® SUR 735 NN 80	73	Vegetable drying oil	NN	6,5–8,5	78,5–81,5	max.4	max.10	**High solid** alkyd resin, fast-drying, good hardness, gloss retention and weather-resistance, wood & metal
NEW CHS-ALKYD® ST 790 NN 75	79	Vegetable drying oil	NN	SOFT THIXO-TROPIC GEL	74,0–76,0	max.25	slight opacity	Medium and long oil alkyd coatings with **low VOC content** especially for wood application
CHS-ALKYD® AL 8000	80	Linoleic rich FA		1,5–3,0[9]	97,0–100	max.10	max.30	**Solvent-free** alkyd resin, low yellowing.
CHS-ALKYD® SU 830 N 85	83	Vegetable drying oil	N	2,5–3,5	83,5–86,5	max.10	max.8	**High solid** urethanised alkyd, **low VOC content** and excelent drying, for production of woodstains coating and paints for wood treatment.
CHS-ALKYD® TRI 841	84	TOFA, DCO		2,5–3,5	97,0–100	max.10	max.16	**Solvent-free** alkyd, fast-drying & outdoor durability, low yellowing.
CHS-ALKYD® S 830	83	Vegetable drying oil		3,0–4,0	97,0–100	max.10	max.7	**Solvent-free** good drying alkyd, super flexible, improved UV stability, interior/exterior use and wood coatings
CHS-ALKYD® TI 870	87	TOFA		2,2–3,2	97,0–100	max.8	max.15	**Solvent-free** alkyd, low yellowing, **high bio content**, wood coating.
CHS-HYDROSPOL® D 870	87	TOFA	V	0,01–0,1	49,0–53,0	max.8	milky white	**Solvent-free** fast-drying waterborne alkyd, **high bio content**, improved UV stability, for wood applications
CHS-ALKYD® LM 920	92	Linoleic rich FA		2,2–3,2	97,0–100	max.8	max.10	**Solvent-free** super-fast drying alkyd, **high bio content**, superflexible, excellent UV resistance, high hydrophobicity, optimal for exterior applications
NEW CHS-HYDROSPOL D 920	92	Linoleic rich FA	V	0,01–0,1	49,0–53,0	max 8	milky white	**Solvent-free** fast-drying waterborne alkyd, **high bio content**, excellent UV stability, for wood applications
BINDERS FOR ADHESIVES								
ABIESTER® 90					100	max.20		Ester based rosin resin, coatings, hot melt adhesives & printing inks
ABIFEN® 125 D					100	max.25		Novolac resin modified with rosin, coatings, adhesives & tyres
ABIMAL® 125					100	max.40	max.35 [10]	Ester based rosin resin, coatings, printing inks, fast-drying, gloss, light durability & weather resistance
BINDERS FOR PRINTING INKS								
CHS-ALKYD® AL 6400	64	Linseed		62–82	100	4–15		Production of typographic inks
CHS-ALKYD® AL 7310	75	Vegetable drying oil		38–48	100	4–10	max.25	Production of offset inks (heatset, sheet offset & metal inks)

high BIO content low VOC waterborne solvent-free

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HYDROXIDES

Product	Modification	Concentration of NaOH (%)	Na_2CO_3 (%)	Chlorides Cl- (ppm)	Fe (ppm)	SO_4^{2-} (ppm)	PO_4^{3-} (ppm)	Heavy metals as Pb (ppm)	Description
SODIUM HYDROXIDE									
NaOH - LIQUID		> 48	< 0,5	< 50	< 5				Clear, colourless liquid
NaOH - PELLETS	Technical grade	> 98	< 1	< 200	< 20	< 100	< 20	< 20	White, strongly hygroscopic lenticular pellets that may have a bluish, yellowish or greyish tint, absorbing CO_2 and moisture in the open air
NaOH - PELLETS	Semipure	> 98	< 1	< 80	< 15	< 40	< 20	< 20	White, strongly hygroscopic lenticular pellets that may have a bluish, yellowish or greyish tint, absorbing CO_2 and moisture in the open air
NaOH - PELLETS	Pharma grade (BP, EP, USP)	> 98	< 0,5	< 200	< 10	< 200		< 20	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing CO_2 and moisture in the open air
NaOH - PELLETS	p.a.	> 98,5	< 0,4	< 70	< 8	< 40	< 3	< 10	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing CO_2 and moisture in the open air
NaOH - PELLETS	Pure	> 98	< 1	< 70	< 10	< 40	< 5	< 10	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing CO_2 and moisture in the open air
POTASSIUM HYDROXIDE									
KOH - LIQUID		45 ± 0,5	< 0,3	< 35	< 5	< 20			Clear, colourless liquid.
KOH - LIQUID		50 ± 0,5	< 0,3	< 35	< 5	< 20			Clear, colourless liquid.
KOH - FLAKES		> 90	< 0,65	< 70	< 30	< 40			White flakes that may have a grayish or bluish tint, absorbing moisture and CO_2 in the open air
KOH - PELLETS	Semipure	> 85	< 0,6	< 70	< 5	< 40	< 5	< 5	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing moisture and CO_2 in the open air
KOH - PELLETS	Pharma grade (BP, EP, USP)	> 85	< 2,0	< 200	< 10	< 200	< 100	< 10	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing moisture and CO_2 in the open air
KOH - PELLETS	p.a.	> 86	< 0,5	< 70	< 3	< 40	< 1	< 5	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing moisture and CO_2 in the open air
KOH - PELLETS	Pure	> 86	< 0,5	< 70	< 3	< 40	< 5	< 5	White, strongly hygroscopic lenticular pellets, rapidly dissolving in water, absorbing moisture and CO_2 in the open air

CHLORINE PRODUCTS & OTHER

Product	Colour (APHA)	Concentration (%)	Concentration of H_2O (%)	1,5 Hexadiene (%)	Stabilizer (%)	Description
ALLYLCHLORIDE	< 50	> 99	< 0,01	< 0,3	0,015–0,025[11]	Clear liquid of characteristic pungent odour, extremely flammable, UV sensitive (darkens).

Product	Colour (APHA)	Concentration (%)	Concentration of H_2O (%)	Description
EPICHLOROHYDRIN	< 10	> 99,8	< 0,02	Colourless volatile liquid with a characteristic irritating odour.

Product	Concentration (%)	Concentration of Fe (%)	Concentration of free Cl_2 (%)	Concentration of SO_4^{2-} (%)	Evaporation residue (%)	Chlorinated hydrocarbons (%)	Description
HYDROCHLORIC ACID	> 31	< 0,03	< 0,01	< 0,04	< 0,1	< 0,0025	Clear, colourless liquid with a yellowish tint and a characteristic pungent odour.

Product	Colour (APHA)	Concentration (%)	Concentration H_2O (mg/kg)	Stabilizer (%)	Distillation range 95% (°C)	Density at 20 °C (kg/m³)	Description
PERCHLOROETHYLENE	< 15	> 99,9	< 34	0,0006–0,002[11]	119,5–121,5	1623	Colourless, water-clear liquid, ether-like odour.

Product	Concentration of active Cl_2 (g/l)	Concentration of NaOH (g/l)	Concentration of Na_2CO_3 (g/l)	Concentration of Fe (g/l)	Description
SODIUM HYPOCHLORITE	>140 (summer – 1.5.–30.9.) >150 (winter – 1.10.–30.4.)	< 12	< 20	< 0,01	Yellow-green to yellow-brown liquid. It decomposes spontaneously at light, in case of increased temperature and in contact with specific metals.

Product	Colour (APHA)	Concentration of H_2O (%)	Concentration of HF acidimetr. KOH (%)	Description
TRIETHYLAMINE TRIHYDROFLUORIDE (TEA)	0–200	> 1,0	22–27	Faintly yellow clear liquid.

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Registered Trade Marks

ABIESTER® ABIFEN® ABIMAL® ENVIPOXY® EPOSTYL® CHS-ALKYD® CHS-EPODUR® CHS-EPOXY® CHS-HYDROSPOL® DECIDOL® SADURIT® TELALIT® VEROBOND®

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