



Garment finishing auxiliaries Product catalogue HUB 1922 Version 8

Textile Auxiliaries

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RUDOLF FASHION
DIVISION

From the MOLECULAR FACTORY, a refined selection of highly responsible chemical auxiliaries for garment finishing.

In addition to delivering current aesthetics, this product range brings sophisticated functionalities that take denim to the next level in terms of environmental consciousness, performance and quality.

Product safety is at the core of RUDOLF GROUP practices. All stakeholders are provided with peace of mind referring to compliance with the MRSL's of renowned brands and retailers subject to individual compliance checks. A wide range of established certifications ensure ecological and physiological performance as well as chemical safety.

BETTER CHEMISTRY - SAFER FASHION



Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning

Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCOLASE® JEA	Preparation of amylase and non-ionic surfactants	Non-ionic	Desizing	Versatile, highly efficient, liquid enzyme for desizing at a wide range of operating temperatures	<ul style="list-style-type: none">• Special product for the enzymatic desizing of denim• Optimum efficiency at pH 7 - 8• For operating ranges between pH 6 and 9• Standardised, very high enzyme activity• Also suitable for cold pad-batch desizing at ambient temperature	Yes	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCOLASE® CADS	Enzyme preparation of acid cellulase and amylase	Uncharged	One-step desizing and stone-washing effects	All-in-one, concentrated, powder enzyme for desizing and stonewashing at low temperature, thus high energy, water and time saving potential	<ul style="list-style-type: none">• Powder compound for All-in-one desizing and stonewashing effects• On selected denim fabrics it allows to achieve stonewashing effect without using pumice stones	Not intended	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCOLASE® CACL	Enzyme preparation of neutral cellulase and amylase	Uncharged	Simultaneous desizing and stonewashing effects at low temperatures	All-in-one, liquid enzyme for desizing and stonewashing at low temperature, thus high energy, water and time saving potential	<ul style="list-style-type: none">• Liquid enzymatic compound for All-in-one desizing and stone-washing effects• High energy and water saving potential through all-in-one• Process and low-temperature application• Achieves excellent naturally structured stonewash effects	Not intended	Not intended	Possible (Denisafe), but not recommended	Yes		(✓)	Yes	Yes	Level 3
RUCOLASE® CALS	Enzyme preparation of acid cellulase	Uncharged	Low temperature stone washing effects	Concentrated, powder enzyme for stonewashing at low temperature	<ul style="list-style-type: none">• Concentrated enzymatic compound for stone-wash at low temperatures starting from 40°C• Contains a buffering system that allows to avoid any pH adjustment during the process	Not intended	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCOLASE® CHPL	Enzyme preparation of neutral cellulase	Uncharged	Stonewashing effects at low temperatures	Concentrated, high performing, liquid enzyme for stonewashing at low temperature	<ul style="list-style-type: none">• Liquid enzymatic compound for stonewashing effects• Stonewashing at low temperatures• Achieves excellent naturally structured stonewash effects	Not intended	Not intended	Yes (Denisafe)	Yes		(✓)	Yes	Yes	
RUCORIT BBL	Enzyme preparation for bio-bleaching of indigo-dyed denim	Uncharged	Enzymatic compound for bio-bleaching already active at room temperature	Bio-bleaching agent already active at ambient temperature, also suitable for bio-cleaning of denim from backstaining at lower dosage	<ul style="list-style-type: none">• At low dosages it can be successfully used to clean up indigo denim from back-staining• It gives indigo fabrics a characteristic grey cast	Not intended	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCORIT CBL	Blend of alkali and bleaching agents	Uncharged	Powder product for low temperature cleaning and bleaching of denim garments	Universal cleaning and bleaching agent after various kinds of pre-treatment steps like desizing, biopolishing, bleaching and so on	<ul style="list-style-type: none">• It allows to perform at low temperature, starting from 40°C• Highlights white areas creating a better blue/white contrast	Not intended	Not intended	Not intended	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 3
RUCORIT X-HYP	Inorganic salt	Uncharged	Bleaching	Basis compound for HypNO bleaching as ecologically far superior alternative both to potassium permanganate and sodium hypochlorite	<ul style="list-style-type: none">• Basis component for HypNO bleaching compound as PP spray substitute and hypochlorite alternative• No unpleasant, acid smell• Ecologically superior alternative both to potassium permanganate and sodium hypochlorite together with additive components	Not intended	Yes	Yes	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 3
RUCORIT X-NOCL	Organic and inorganic compounds	Uncharged	Bleaching	Additive component to HypNo basis component as halogene-free alternative to hypochlorite bleaching	<ul style="list-style-type: none">• Additive component to HypNO basic component as hypochlorite alternative• Halogene-free• No unpleasant, acid smell	Not intended	Not intended	Not intended	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 3
RUCORIT X-NOPP	Organic and inorganic compounds	Uncharged	Bleaching	Additive component to HypNo basis component as heavy metal-free alternative to PP spray local bleaching	<ul style="list-style-type: none">• Additive component to HypNO basic component as PP spray substitute• Free of heavy metals• No unpleasant, acid smell	Not intended	Yes	Yes	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 3

...Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning

Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCOLASE® ZSS	Acid cellulase for bio-polishing	Uncharged	Bio-polishing	Superstrong biocatalyst based on acid cellulase for bio-polishing in order to achieve highly durable antipill finish of cellulotics	<ul style="list-style-type: none">• Biocatalyst for the removal of pills and for the permanent antipill finishing of cellulosic fibres• Biocatalyst for the defibrillation of primary-fibrillated lyocell articles• Biocatalyst for the surface modification and softening of wovens or knitgoods made from cellulosic fibres by means of biofinishing• For the gentle production of wash-out effects• Successful only at optimum temperature, pH and time control• Only effective in combination with surface mechanics• Removes pills, fibrils and loose fibres through biocatalytic degradation of the cellulose• Solution to quality defects, such as fluffiness and pilling• Genuine finishing process for first-class surface look and handle improvement• Wash-resistant effects• Enzyme stop by the addition of alkalis or oxidising agents or by temperature increase	No	Not intended	Not intended	Yes		✓	Yes	Yes	Level 3
RUCOLASE® ZLN	Neutral cellulase for bio-polishing	Uncharged	Bio-polishing	Biocatalyst based on neutral cellulase for bio-polishing in order to achieve highly durable antipill finish of cellulotics	<ul style="list-style-type: none">• Biocatalyst for the removal of pills and for the permanent antipill finishing of cellulosic fibres• Biocatalyst for the defibrillation of primary-fibrillated lyocell articles• Biocatalyst for the surface modification and softening of wovens or knitgoods made from cellulosic fibres by means of biofinishing• Removes pills, fibrils and loose fibres through biocatalytic degradation of the cellulose• For the gentle production of wash-out effects• Successful only at optimum temperature, pH and time control• Optimum efficiency at 55 - 60 °C and pH 5.5 - 7• Solution to quality defects, such as fluffiness and pilling• Genuine finishing process for first-class surface look and handle improvement• Wash-resistant effects• Enzyme stop by the addition of alkalis, oxidising agents or by temperature increase• Applicable in one-bath two-step processes for anti-pill treatment and subsequent dyeing• Sensitive to residual alkali from bleaching, oxidising agents, heavy metal salts or other enzyme poisons	No	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCOGEN® X-DAB	Preparation of fatty alcohol ethoxylates and polymers	Non-ionic	Washing with anti-backstaining	Excellent washing, dispersing and soil suspending agent with high level anti-backstaining properties	<ul style="list-style-type: none">• Speciality product for reducing backstaining of indigo-dyed denim• Applicable for all fibre types in all treatment steps of jeans washing• Excellent dispersing and soil suspending properties especially for indigo bleeding• Excellent washing power• Suitable for drum washing machines with high liquor turbulence• No unpleasant odour• Not an enzyme poison	No	Not intended	Not intended	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 1

Specialities														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCO®-SPECIAL LPR	Inorganic and organic compounds	Uncharged	Laserpriming/boosting	Unique laser primer for garments and fabrics with high laser-boosting and energy saving potential without remarkable fibre damage	<ul style="list-style-type: none"> Excellent laser priming effect with high energy saving potential Minimised fibre damage 	Yes, with specific precaution	Yes	Yes	Yes		✓	Yes	Yes	Level 0
RUCO®-SPECIAL LPC	Organic compound	Uncharged	Catalysing of laser-priming/-boosting	Laser primer catalyst with top enhancement of laser primer	<ul style="list-style-type: none"> Clear catalysis function for the laser prime effect with RUCO®-SPECIAL LPR 	Yes, with specific precaution	Yes	Yes	Yes		(✓)	Yes	Yes	Level 0
RUCO®-SPECIAL DPR	Preparation of organic acids and salts	Uncharged	Fibre protection at laser boosting	Speciality product for pH buffering and simultaneously strongly efficient fibre protection function	<ul style="list-style-type: none"> Reduces the fibre damage during laser priming effects when used in recipes for foam coating of the laser priming system consisting of RUCO®-SPECIAL LPR and RUCO®-SPECIAL LPC 	Yes	Not intended	Not intended	Not intended		(✓)	Yes	Yes	Level 0
RUCO®-COAT FO 4010	Preparation of surfactants	Amphoteric	Foaming agent for foam coatings	Strong and stable high quality foaming agent for minimum application of laserprimer system by foam coating	<ul style="list-style-type: none"> No impairment of water and oil-repellent effects Compatible with many textile auxiliaries For foam coating/application of the laser priming system consisting of RUCO®-SPECIAL LPR and RUCO®-SPECIAL LPC 	Not intended	Not intended	Not intended	Not intended		(✓)	Yes	Yes	Level 3
HYDROCOL® X-KNI	Polymer (Preparation of polyamide)	Cationic	Indigo fixing / fastness improving / pale-dark effects	Powerful indigo fixing agent without necessity to cure and agent for achieving highly detectable pale-dark effects on denim garments	<ul style="list-style-type: none"> Fixing agent for indigo dyeings Can be used in garment finishing to obtain pale-dark effects Very good effects are obtained by spraying 200 - 500 g/l HYDROCOL® X-KNI (spray 30 - 50 %, dry) on untreated denim fabric 	Yes	Yes	Yes	Yes			Yes	Yes	Level 3
HYDROCOL® X-WRF NEW	Polyurethane	Cationic	Fastness improving	Special fastness improving agent for distinct enhancement especially of the wet rubbing/crocking fastness	<ul style="list-style-type: none"> Product to improve the wet rub-fastness especially for reactive dyeings and prints Improves the wet and dry rub fastness of dyeings and prints Provides a soft handle 	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 3
RUCOFIN® DARK	Polysiloxane compound	Cationic	Colour intensification / Blocking agent at bleaching	Efficient colour intensification product without influencing the handle effect distinctly into the direction of a soft touch	<ul style="list-style-type: none"> Intensifies colour depth of the whole garment when applied by bath Locally applied on garments by brush before bleaching it allows reserving effects Does not influence the garments handle in the direction of a distinctly soft touch 	Yes	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCOLAN® IVS	Alkylaryl sulpho-nate	Anionic	Protection against yellowing	Safe and effective protection agent for avoidance of gas-fading induced indigo destruction and storage yellowing	<ul style="list-style-type: none"> Speciality product for protecting indigo-dyed denim against yellowing and for preventing storage yellowing on polyamide Improvement of the ozone and gas fading fastness properties of indigo-dyed denim Specified pH value for application for denim 4 - 5 Specified pH value for polyamide 3 - 4 	Yes	Not intended	Not intended	Yes		✓	Yes	Yes	Level 3

...Specialities														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCO®-PLAST BO	Polyvinyl alcohol	Non-ionic	Binding/Additive for pleat fixation	Useful additive for 3D pleat formation together with resins and speciality product for enhancing the scrapeability of denim	<ul style="list-style-type: none"> • Handle modifier and filling agent, especially as additive to resin finishing liquors • Preferably used as filling agent for resin finishing • Improves the fastness to dry rubbing of dyeings • Suitable for temporary anti-curling finishes • Compatible with most handle modifiers and softening agents • Forms a very hard, non-elastic, transparent film • Not wash-resistant • Improves distinctly the scrapeability 	Yes	Yes	Yes	Not intended		(✓)	Yes	Yes	Level 3
VEROLAN® NAD	Preparation of alkyl phosphonate, organic and inorganic salts	Anionic	Corrosion protection	Effective corrosion inhibitor for metal parts with high dispersing capacity	<ul style="list-style-type: none"> • Organic complexing agent for the sequestration of hardness salts and process-disturbing metal ions • Very high calcium and magnesium binding capacity • Very high iron binding capacity • Good dispersing capacity • Easily rinsed out • Low-foaming • Prevents the corrosion of the metal parts of garments • Stock liquors should not be prepared in nor be added through copper, brass or galvanized receptacles or pipes 	Not intended	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 1
RUCOLIN® JET	Polyacryl amide	Anionic	Running crease inhibition	Very good running crease inhibitor for all processes and speciality product for making liquors suitable for padding and lick roll processes by formation of a stable uniform film	<ul style="list-style-type: none"> • Running crease inhibitor for bleaching and dyeing CO, CV, and PES as well as their blends • Suitable for application on winch becks, jets and overflow dyeing machines both at the boil and in the HT range • Reduces fibre/fibre and fibre/metal friction • Ensures optimum plaiting • Prevents the formation of abrasion marks on knitgoods 	Not intended	Not intended	Not intended	Yes		✓	Yes	Yes	Level 3

Handle creation, softening, binding, coating effects														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
PERRUSTOL® X-IPS NEW	Fatty acid condensation product	Cationic	Fatty acid condensation product softening	Fatty acid condensation product softening agent with special function of protecting indigo, low-foaming and stable to yellowing up to 170°C	<ul style="list-style-type: none"> Special soft handle agent for the treatment of indigo-dyed denim and jeans articles made from CO and CO/lycra blends For the universal soft handle finishing of wovens or knits as well as garments of all fibre types 	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 0
PERRUSTOL® X-MMX CONC	Fatty acid condensation product	Weakly cationic	Fatty acid condensation product softening	Biomaterial based softening agent concentrate with self-emulsifying property, highly hydrophilic and hydrophilising, stable to yellowing providing a soft, natural touch	<ul style="list-style-type: none"> Hydrophilic, self-emulsifying, liquid softener concentrate for cellulosic fibres or their blends with synthetic fibres Resistant to yellowing at drying temperatures up to 170 °C, preliminary trials are recommended 	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 0
PERRUSTOL® X-VNO NEW	Fatty acid condensation product	Non-ionic	Fatty acid condensation product softening	Fatty acid condensation product softening agent with hydrophobic character and perfect combinability with repellency performance finishes ensuring a smooth touch	<ul style="list-style-type: none"> Excellent soft handle on cellulose-containing substrates Applicable in resin finishing liquors; preliminary trials are recommended Compatible with many optical brighteners; preliminary trials are recommended Highly resistant to yellowing, even at high drying temperatures 	Yes	Not intended	Yes	Yes		✓	Yes	Yes	Level 0
RUCOFIN® X-HSX	Preparation of a fatty acid condensation products, silicone and polyethylene	Cationic	Silicone softening	Compound softening agent of FAC, polyethylene and silicone with maintaining a very high absorbency level and protection against mechanical damage, soft, fluffy and smooth touch	<ul style="list-style-type: none"> Softening and lubricating agent Does not impair the fabrics hydrophilic properties, even after extreme drying processes Confers a smooth, very soft fluffy handle and, with higher application quantities, a superfattening effect Improves the sewability and prevents loop and sewing damage Low-foaming, suitable for jet application Resistant to yellowing at drying temperatures of 170° C Applicable in resin finishing liquors, preliminary trials are recommended 	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 3
RUCOFIN® X-WSE NEW	Preparation of fatty acid condensation product, polyethylene and polysiloxane compound	Non-ionic	Silicone softening	Compound softening agent of FAC, polyethylene and silicone for soft, surface smooth handle effect with good combinability with optical brightening agents	<ul style="list-style-type: none"> Confers soft, surface-smooth handle Confers inner softness Improves the abrasion resistance Improves the sewability In resin finishing liquors applicable, preliminary trials are recommended Resistant to yellowing up to drying temperatures of <170° C Compatible with many optical brighteners; preliminary trials are recommended 	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 3
RUCOFIN® X-GWA NEW	Amidofunctional polysiloxane compound, microemulsion	Non-ionic	Silicone softening	Silicone softening agent (microemulsion) with highest process safety, over-dyeability and highest hydrophilic behaviour giving a very natural, dry and soft touch	<ul style="list-style-type: none"> Highly process-secure, hydrophilic, jet-stable silicone softener for textiles of all fibre types, especially for synthetics or blends with cellulosic fibres Confers natural handle effects with inner softness Hydrophilic character High resistance to yellowing High shear stability and process safety (jet-stable) Applicable in a wide pH range (pH 1 - 9) Compatible with many optical brighteners Compatible with electrolytes, suitable for resin finishing 	Yes	Not intended	Yes	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 3
RUCOFIN® X-GWE	Polysiloxane compound, macroemulsion	Non-ionic, weakly cationic	Silicone softening	Silicone softening agent (macro emulsion) with perfect colour intensification and colour maintaining properties, hydrophobic and highly durable to washing	<ul style="list-style-type: none"> Wash-permanent, highly concentrated silicone softener, confers an excellent soft handle, surface smoothness and intensifies colours Confers a very soft, velvety handle Confers surface smoothness and lustre Hydrophobic, wash-permanent finishing effects Imparts colour-intensifying properties (jet black effect) 	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 3

...Handle creation, softening, binding, coating effects														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCOFIN® X-GWM	Polysiloxane compound, microemulsion	Non-ionic, weakly cationic	Silicone softening	Silicone softening agent (microemulsion) providing elastomeric, smooth handle effects due to its cross-linking character, highly hydrophobic and extremely durable to washing	<ul style="list-style-type: none">• Highly durable silicone softener with super soft handle effects similar to elastomers• Especially suitable for stretch articles• Increases elasticity, elastic recovery and dimensional stability• Low tendency to yellowing, even at higher drying temperatures	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 3
RUCOFIN® X-GWS	Polysiloxane compound, microemulsion	Non-ionic, weakly cationic	Silicone softening	Silicone softening agent (microemulsion) for megasoft handle effects, hydrophobic and durable to washing	<ul style="list-style-type: none">• Universal, durable, concentrated silicone softening agent• Confers excellent handle effects and resilience to all fibre types.• Distinctly increases resilience, dimensional stability and elastic recovery• Improves the crease recovery and self-smoothing properties• Intensifies the colour impression• Low tendency to yellowing• Excellent durability to washing• Electrolyte-resistant, compatible with resin finishing agents	Yes	Not intended	Yes	No		(✓)	Yes	Yes	Level 3
RUCOFIN® X-HST	Polysiloxane compound, microemulsion	Non-ionic	Silicone softening	Silicone softening agent (microemulsion) conferring a unique soft and surface smooth hand feel, hydrophilic and resistant to yellowing	<ul style="list-style-type: none">• Confers a special full, soft hand feel and surface smoothness• Hydrophilic character• High resistance to yellowing• Excellent stability to processes and shear forces• Extremely high pH stability (pH 1 - 12)• Compatible with common optical brighteners• Good electrolyte compatibility, suitable for resin finishing liquors	Yes	Yes	Yes	Yes		(✓)	Yes	Yes	Level 0
RUCOFIN® X-SIQ NEW	Quaternary polysiloxane compound, microemulsion	Cationic	Silicone softening	Silicone softening agent (microemulsion), very high process safety, pH stability, providing a natural handle with high inner softness	<ul style="list-style-type: none">• Hydrophilic silicone softening and smoothing agent for textiles of all fibre types• Confers a very soft, voluminous and smooth handle• Excellent maintenance of the absorptive properties of hydrophilic textiles• High resistance to yellowing• Improves antcrease properties, tear strength and abrasion resistance in resin finishing• Applicable in wide pH range (pH 1 - 12)• High running and shear stability• Compatible with many common optical brighteners• Good electrolyte compatibility, suitable for resin finishing liquors	Yes	Not intended	Yes	Yes		(✓)	Yes	Yes	Level 3

...Handle creation, softening, binding, coating effects														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCO®-PUR X-SLY	Polyurethane	Slightly cationic	Handle creation	Handle creation agent, hydrophilizing agent and special softening agent, supporting the natural absorbency of cellulosic and man made fibre materials whilst creating a PU-specific soft handle with a high inner softness	<ul style="list-style-type: none">• Hydrophilising agent and special softener for garments and fabrics of all fibre types• Creates a PU-specific soft handle with a high inner softness• Hydrophilic properties, resistant to mild washing, are imparted to articles made of synthetics• Confers good antistatic properties to synthetic substrates• For dyed or white goods• Does not require curing (no oven treatment)• Easily overdyed (easy-repair function)• Increases the elasticity and elastic recovery of the fabric• Versatile combinations with other finishing products possible; pretrials for testing the liquor compatibility are recommended• Wash-permanent soft handle effects can be created on the substrate in connection with reactant crosslinking agents and respective catalysts	Yes	Yes	Yes	Yes		(✓)	Yes	Yes	Level 0
FERAN® X-SSG 200	Silicic acid	Cationic	Handle creation / Anti-slip finish	Handle creation agent, anti-slip finish product for special handfeels like e.g. peach-skin and other velvety touches in combination with silicone softening agents	<ul style="list-style-type: none">• Anti-slip agent for finishes imparting a soft handle• Excellent anti-slip effect• Application in resin finishing liquors possible• Slight delustring of fabric appearance	Yes	Not intended	Not intended	Yes		(✓)	Yes	Yes	Level 3
RUCO®-PLAST HLS	Polyvinylacetate	Non-ionic	Handle creation / Stiffening effects	Handle creation agent and filling/stiffening product for special handfeels like e.g. paper-touch and other rigid finishes, based on polyvinyl-acetate	<ul style="list-style-type: none">• Wash-resistant handle-modifying, filling and stiffening agent for all fibre types• Suitable for wash-resistant anti-curling finishes• Protects textiles from wearing out• Applicable in resin finishing liquors• Resistant to washing• Forms a very hard, in-elastic, turbid and tack-free film• Formaldehyde-free• Good resistance to yellowing	Yes	Yes	Yes	No		(✓)	Yes	Yes	Level 3
RUCO®-PLAST X-PCA	Polyacrylate	Non-ionic	Binding / Special effects	Binder and special effect creator based on a soft, laserable polymer for special effects in terms of touch and laser effects, non-ionic, based on polyacrylate polymer	<ul style="list-style-type: none">• Soft, laserable polymer for special handle effects• Significantly increases anti-pill and velcro-resistant effects• Heat-reactive hence self-crosslinking• Obtains resistant-to-washing and dry-cleaning effects• Forms a soft, flexible, transparent and slightly tacky film	Yes	Yes	Yes	No		(✓)	Yes, but only class II-IV ¹⁾	Yes	Level 0
RUCO®-PLAST PNF	Aqueous dispersion based on acrylate-copolymer	Non ionic, slightly anionic	Binding / Special effects	Binder and special effect creator based on a soft, laserable polymer for special effects in terms of touch and laser effects, non-ionic, slightly anionic based on polyacrylate-copolymer	<ul style="list-style-type: none">• Significantly increases the antipill and Velcro-resistant effects• Improves the rubfastness• Confers soft handle and high resilience• Resistant to washing, limited resistance to dry cleaning• Forms a soft, elastic, transparent and tack-free film• Formaldehyde-free	Yes	Yes	Yes	No		(✓)	Yes	Yes	Level 3
RUCO®-COAT AC 3110	Preparation of polyacrylates	Non ionic, slightly anionic	Coating effects - Acrylate	Coating effect component based on polyacrylate polymer	<ul style="list-style-type: none">• Aqueous acrylic ester dispersion for paste or foam coatings, self-crosslinking• For a soft, resilient/elastic film• Suitable for base or multicoats• Coatings are wash-resistant	No	Yes	Yes	Not intended		✓	Yes	Yes	Level 3
RUCO®-COAT PU 1110	Aqueous, aliphatic polyether polyurethane dispersion	Anionic	Coating effects - Polyurethane	Coating effect component based on polyurethane polymer	<ul style="list-style-type: none">• For paste coatings with high resistance to hydrolysis and soft handle• Good hydrostatic head in a single pass• Very soft, sticky, transparent, highly elastic film• Suitable for the base coat with multilayer coatings• Highly stable to hydrolysis	No	Yes	Not intended	Not intended		(✓)	Yes	Yes	Level 3
RUCO®-COAT TH 5020	Pre-neutralised polyacrylate	Anionic	Thickener for coating pastes	Easy-to-handle thickener for coating pastes	<ul style="list-style-type: none">• Synthetic thickener for aqueous polymeric dispersions• Excellent for post-thickening pastes• Even small quantities lead to a considerable increase in the viscosity• Swells rapidly in water, has a strongly thickening effect	No	Yes	Not intended	Not intended		✓	Yes	Yes	Level 3
¹⁾ Without Appendix 6 and the accompanying Appendix 7: Suitable for Product Classes II - IV. For Product Class I suitability must be checked under the individual application con-														

¹⁾ Without Appendix 6 and the accompanying Appendix 7:
Suitable for Product Classes II - IV. For Product Class I suitability must be checked under the individual application conditions on the finished textile. Including Appendix 6 and accompanying Appendix 7:
Suitability for Product classes I - IV must be checked under the individual application conditions on the finished textile

3D pleats, easy care														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCON® X-FAC	Modified N-methylol dihydroxyethylene urea with incorporated catalyst system	Uncharged	Permanent pleat fixation / Easy care finish / Creation of 3D effects	Resin for 3D pleat formation, low-formaldehyde	<ul style="list-style-type: none">• Crosslinking agent for the low-formaldehyde resin finishing of wovens and knitwear made from cellulosic fibres and their blends with synthetic fibres• Applicable to made-up garments• Does not require an additional catalyst system• Results in very low formaldehyde values if cured adequately• Good easy-care properties and high dimensional stability of the finished goods• Produces wash-and-wear effects that are stable at the boil• No or only slight changes of shade• Produces chlorine-resistant finishes• Causes lower losses of tear fastness than conventional reactant crosslinking agents• Highly compatible with most auxiliaries used in resin finishing, such as additives, softening and filling agents, water, oil and soil repellent agents and brighteners• Perfectly suitable for creating 3D effects• Strong blocking agent for indigo when oxidants are applied subsequently to 3D tagging• In the case of oxidant application after 3D tagging: Preferably for dark shades (avoid on lighter shades due to too strong contrasts at the 3D pleat area bleaching)• For 3D effect creation on lighter shades: RUCON® FNF is to be preferred	Yes	Yes	Yes	Yes		(✓)	Yes, but only class II-IV ¹⁾	Yes	Level 0
RUCON® FNF	Modified dihydroxyethylene urea, formaldehyde-free	Uncharged	Permanent pleat fixation / Easy care finish / Creation of 3D effects	Resin for 3D pleat formation, formaldehyde-free	<ul style="list-style-type: none">• Crosslinking agent for a formaldehyde-free resin finishing of textiles made of cellulosic fibres or their blends with synthetic fibres.• High liquor stability even with strong catalysts• Results in formaldehyde-free finishing effects if catalysed and cured correctly• Complies with the requirements of zero formaldehyde according to Standard 100 by OEKO-TEX®, class I• Perfectly suitable for creating 3D effects• Blocking agent for indigo when oxidants are applied subsequently after 3D tagging (particularly suitable for light to medium washes)• Avoidance of undesired strong contrasts in the 3D pleat area when bleaching after 3D tagging• RUCON® X-FAC would give too strong contrasts in the 3 D pleat area	Yes	Yes	Yes	Yes		(✓)	Yes	Yes	Level 3

¹⁾ Without Appendix 6 and the accompanying Appendix 7:
Suitable for Product Classes II - IV. For Product Class I suitability must be checked under the individual application conditions on the finished textile. Including Appendix 6 and accompanying Appendix 7:
Suitability for Product classes I - IV must be checked under the individual application conditions on the finished textile

Effect functionalities														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCO®-DRY X-ECO PLUS	Hyperbranched and linear polymers	Cationic	Repellency / Stain protection	Very effective fluorine-free water-repellent agent for finishing fabrics of all fibre types with high resistance to washing in combination with boosters and good level of biobased carbon content	<ul style="list-style-type: none"> • Very effective water-repellent agent for finishing fabrics of all fibre types • High resistance to washing in combination with boosters • Good level of biobased carbon content 	Yes	Yes	Yes	Yes		(✓)	Yes	Yes	Level 0
RUCO®-DRY X-ECO ADV	Hyperbranched and linear polymers	Cationic	Repellency / Stain protection	Highly effective fluorine-free water-repellent agent for finishing fabrics of all fibre types with high resistance to washing in combination with boosters and excellent level of biobased carbon content	<ul style="list-style-type: none"> • Highly effective water-repellent agent for finishing fabrics of all fibre types • Imparts very good water repellent properties • High resistance to washing in combination with boosters • Excellent level of biobased carbon content 	Yes	Yes	Yes	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 1
RUCO®-LINK X-RCX	Blocked polyisocyanate	Cationic	Booster for combination predominantly with fluorine-free repellency agents	Non-yellowing booster, low curing (150°C) crosslinking component preferably for fluorine-free repellents like e.g. RUCO®-DRY X-ECO PLUS and RUCO®-DRY X-ECO ADV	<ul style="list-style-type: none"> • Crosslinking component for RUCO®-DRY X-ECO PLUS and RUCO®-DRY X-ECO ADV for hydrophobic and soil-repellent fluorocarbon-free finishes • Low curing temperature (approx. 150 °C) necessary • Free of flammable solvents • No yellowing 	Yes	Yes	Yes	Yes	Screened Chemistry certified	(✓)	Yes	Yes	Level 3
RUCO®-LUB KMN 400	Polyethylene	Non-ionic	Mechanical / technological Improvement	Improving agent for mechanical properties like tensile strength and abrasion resistance and smooth handle additive	<ul style="list-style-type: none"> • Additive for resin finishing for reducing the loss in tensile strength and abrasion resistance as well as for improving the crease recovery • Softener for improving the sewability • Reduces losses in tensile strength and abrasion resistance • Increases the dry and wet crease recovery • Improves the sewability and avoids loop damage • No yellowing even at extremely high temperatures • Confers a soft, supple handle 	Yes	Yes	Yes	Yes		✓	Yes	Yes	Level 3
RUCO®-BAC AGP	Preparation of inorganic salts and surfactants	Anionic	Hygiene and freshness	Hygienic and freshness finish agent with non-migrating bacteriocidal and slightly fungicidal effects, highly effective and resistant to washing and dry cleaning even at very low quantities and without binder	<ul style="list-style-type: none"> • Non-migrating bacteriocidal and slightly fungicidal properties for textile protection • Highly resistant to washing and dry cleaning • Has no effect on existing or imparted hydrophilic properties • Resistant to yellowing • Resistant to higher drying temperatures 	Yes	Not intended	Yes	Yes		✓	Yes	Yes	Level 3
RUCO®-SHIELD RAY	Inorganic pigments in a polysiloxane matrix	Cationic	Special effects	Durable, effective UV protective finish of textiles for protecting the skin from harmful UV rays without impairing the textile handle	<ul style="list-style-type: none"> • Durable UV protective finish of textiles for protecting the skin from harmful UV rays • Especially suitable for cellulosic fibres • Mineral titanium dioxide absorbs and reflects incident UV rays and, thus, significantly reduces the portion of transmitted rays • Depending on the fabric construction, the requirements of common standards (e.g. AS/NZS 4399, EN 13758, AATCC 183) can be fulfilled • The best results are obtained on unfinished cotton • Does not impair the textile handle 	Yes	Not intended	Yes	Yes		✓	Yes	Yes	Level 3

...Effect functionalities														
Product	Chemical Basis	Ionic character	Function relevant to denim	Short description	Benefits, key characteristics	Suitable for padding	Suitable to be sprayed by spray gun	Suitable to be applied by spray / fog / nebulisation system	Suitable in classical garment drum washing machines	Actual application at Scivera for Screened Chemistry	bluesign® APPROVED	OEKO-TEX standard 100 compliance class I-IV	ZDHC compliant (Contained in RUDOLF ZDHC positive list) RI 15/2014 Edition 4.0	Actual ZDHC Chemical Gateway level
RUCO®-PUR X-SLR	Reactive poly-ether polyurethane	Cationic	Binding / Shape retaining	Durable shape retaining effects, resilience and elasticity support with soft and flexible hand feel, durable effects when dried at 150°C, based on polyurethane polymer, cationic	<ul style="list-style-type: none"> • Self-crosslinking polyurethane • Provides excellent antisagging/antibagging properties • Reduces the tendency to pill and snag • Improves tear strength, tensile strength and abrasion resistance • Suitable for chintz finishes durable to washing • Increases resilience and elastic recovery • Improves the crease recovery when used in resin finishing • Improves the dry rub-fastness • Does not affect the hydrophilic properties of the finished fabric • Forms a soft, elastic, opaque and tack-free film • Develops elegant lustre in garment finishing • Very good anti-fraying effect for intentionally damaged areas in denim 	Yes	Yes	Yes	Yes		✓	Yes	Yes	Level 3
RUCO®-PUR X-FSA	Polyesterpolyurethane dispersion	Anionic	Binding / Special effect	Durable shape retaining effects, resilience and elasticity support with soft and flexible hand feel, durable effects when dried at 120°C, based on polyurethane polymer, anionic	<ul style="list-style-type: none"> • Versatile wash-durable finishing agent for garments and fabrics in order to provide shape-retaining antibagging/antisagging effects • Handle creating agent for fashion garments • Suitable for all fibre types and blends 	Yes	Yes	Yes	Not intended		(✓)	Yes	Yes	Level 0

Index of HUB 1922 portfolio content

Product matchcode	Product group name	Page	Function	Function area
AC 3110	RUCO-COAT	16	Coating effects -Acrylate	Handle creation, softening, binding, coating effects
AGP	RUCO-BAC	20	Hygiene and freshness	Effect functionalities
BBL	RUCORIT	4	Enzymatic com- pound for bio- bleaching already active at room temperature	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
BO	RUCO-PLAST	10	Binding/Additive for pleat fixation	Specialities
CACL	RUCOLASE	4	Simultaneous desizing and stone- washing effects at low temperatures	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
CADS	RUCOLASE	4	One-step desizing and stone-washing effects	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
CALS	RUCOLASE	4	Low temperature stone washing effects	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
CBL	RUCORIT	4	Low temperature cleaning and bleaching of denim garments	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
CHPL	RUCOLASE	4	Stonewashing effects at low temperatures	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
DARK	RUCOFIN	8	Colour intensification/Blocking agent at bleaching	Specialities
DPR	RUCO-SPECIAL	8	Fibre protection at laser boosting	Specialities
FNF	RUCON	18	Permanent pleat fixation/Easy care finish/Creation of 3D effects	3D pleats, easy care
FO 4010	RUCO-COAT	8	Foaming agent for foam coatings	Specialities
HLS	RUCO-PLAST	16	Handle creation/Stiffening effects	Handle creation, softening, binding, coating effects
IVS	RUCOLAN	8	Protection against yellowing	Specialities
JEA	RUCOLASE	4	Desizing	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
JET	RUCOLIN	10	Running crease inhibition	Specialities
KMN 400	RUCO-LUB	20	Mechanical/ technological Improvement	Effect functionalities
LPC	RUCO-SPECIAL	8	Catalysing of laser-priming/-boosting	Specialities
LPR	RUCO-SPECIAL	8	Laserpriming/boosting	Specialities
NAD	VEROLAN	10	Corrosion protection Running crease inhibition	Specialities
PNF	RUCO-PLAST	16	Binding/Special effects	Handle creation, softening, binding, coating effects
PU 1110	RUCO-COAT	16	Coating effects -Polyurethane	Handle creation, softening, binding, coating effects
RAY	RUCO-SHIELD	20	Special effects	Effect functionalities
TH 5020	RUCO-COAT	16	Thickener for coating pastes	Handle creation, softening, binding, coating effects
X-DAB	RUCOGEN	6	Washing with anti-backstaining	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
X-ECO ADV	RUCO-DRY	20	Repellency/Stain protection	Effect functionalities
X-ECO PLUS	RUCO-DRY	20	Repellency/Stain protection	Effect functionalities
X-FAC	RUCON	18	Permanent pleat fixation/Easy care finish/Creation of 3D effects	3D pleats, easy care
X-FSA	RUCO-PUR	22	Binding/Special effect	Effect functionalities
X-GWA NEW	RUCOFIN	12	Silicone softening	Handle creation, softening, binding, coating effects
X-GWE	RUCOFIN	12	Silicone softening	Handle creation, softening, binding, coating effects
X-GWM	RUCOFIN	14	Silicone softening	Handle creation, softening, binding, coating effects
X-GWS	RUCOFIN	14	Silicone softening	Handle creation, softening, binding, coating effects
X-HST	RUCOFIN	14	Silicone softening	Handle creation, softening, binding, coating effects
X-HSX	RUCOFIN	12	Silicone softening	Handle creation, softening, binding, coating effects

Index of HUB 1922 portfolio content

Product matchcode	Product group name	Page	Function	Function area
X-HYP	RUCORIT	4	Bleaching	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
X-IPS NEW	PERRUSTOL	12	Fatty acid con densation product softening	Handle creation, softening, binding, coating effects
X-KNI	HYDROCOL	8	Indigo fixing/fastness improving/ pale-dark effects	Specialities
X-MMX CONC	PERRUSTOL	12	Fatty acid condensation product softening	Handle creation, softening, binding, coating effects
X-NOCL	RUCORIT	4	Bleaching	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
X-NOPP	RUCORIT	4	Bleaching	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
X-PCA	RUCO-PLAST	16	Binding/Special effects	Handle creation, softening, binding, coating effects
X-RCX	RUCO-LINK	20	Booster for combination predominantly with fluorine- free repellency agents	Effect functionalities
X-SIQ NEW	RUCOFIN	14	Silicone softening	Handle creation, softening, binding, coating effects
X-SLR	RUCO-PUR	22	Binding/Shape retaining	Effect functionalities
X-SLY	RUCO-PUR	16	Handle creation	Handle creation, softening, binding, coating effects
X-SSG 200	FERAN	16	Handle creation /Anti-slip finish	Handle creation, softening, binding, coating effects
X-VNO NEW	PERRUSTOL	12	Fatty acid condensation product softening	Handle creation, softening, binding, coating effects
X-WRF NEW	HYDROCOL	8	Fastness improving	Specialities
X-WSE NEW	RUCOFIN	12	Silicone softening	Handle creation, softening, binding, coating effects
ZLN	RUCOLASE	6	Bio-polishing	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning
ZSS	RUCOLASE	6	Bio-polishing	Desizing, stonewash effects, bio-polishing, bleaching, washing/cleaning

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