

TEXTILE AUXILIARIES

Eco logic!

Because Eco is more
than just a word



ZSCHIMMER & SCHWARZ



Zschimmer & Schwarz has been a bluesign® system partner since 2012. bluesign® is driving sustainable textile production to protect mankind, the environment and resources.

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CHEMISTRY TAILOR-MADE

Zschimmer & Schwarz is an internationally active company with headquarters in Lahnstein near Koblenz, Germany. The company has been family-owned since its foundation in Chemnitz, Germany, in 1894.

Our core business is the development, manufacture and delivery of tailor-made chemical auxiliaries for the leather, fur, ceramic, textile and chemical fibre industries. Manufacturers of cleaning agents, personal care products, paints and coatings, lubricants and industrial applications all over the world trust in the company's chemical specialities as well.

The corporate group Zschimmer & Schwarz combines 30 companies in 16 countries on five continents, 22 of which have their own production facilities. Our customers can always rely on a uniform quality standard worldwide and equally on the high service orientation of our local experts.

The Textile Auxiliaries Division offers process auxiliaries that are synonymous with efficiency, effectiveness and quality in the textile industry. In addition to products for manufacturing yarns and fabrics, this division offers sustainable products for pre-treatment, dyeing and printing as well as finishing.

Our application technologists and sales service will be happy to advise you.

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Eco logic!

With our innovative Eco logic! product line, we are offering customers products and process solutions that contribute to sustainable development, combining profitability and business success with environmental conservation.

Eco logic! includes environmentally friendly products and process solutions that can be used throughout the textile finishing chain; ranging from conditioning agents for the production of textile fabrics to pretreatment, dyeing and functional finishes.

With Eco logic!, we are setting high standards for the active, sustainable protection of our environment! All products comply with the legal requirements and current environmental directives of the textile industry (e.g. ZDHC Gateway™, STANDARD 100 by OEKO-TEX®, bluesign®, GOTS, The BHive®, GRS). The use of natural raw materials and the ready biodegradability of Eco logic! products are key aspects of our current product range as well as future products.

Our innovative Eco logic! process technologies offer optimally tailored solutions for the textile user and lead to considerable savings in water and wastewater as well as lower energy consumption and reduced process times in comparison to conventional processes.

Therefore, Eco logic! processes not only enable the responsible stewardship of our environment, but also offer economic benefits, such as high production reliability, consistent product quality and enhanced competitiveness for our customers.

BECAUSE ECO IS MORE THAN JUST A WORD FOR US.

BLEACHING
AGENTS



DETERGENTS



COLD WHITE



LUBRICANTS



ANTI-YELLO-
WING AGENTS



LT ANTI-
YELLOWING



ECONDye



DYEING AUXILIARIES
FOR NATURAL FIBRES



LT SOAPING



DYEING AUXILIARIES
FOR SYNTHETIC FIBRES



LT DYEING



ZS CLEARING SYSTEM



RECYCLED
POLYESTER – rPET



FINISHING



AIRMAX 2.0





BLEACHING AGENTS

TISSOCYL COD is an ecological bleaching compound for the peroxide bleaching of yarns and knitted fabrics made from cotton and its blends. The product, based on natural raw materials, is phosphonate- and phosphate-free and has a very low COD and BOD content.

OPTAVON LTB is used as a peroxide activator for the bleaching of cotton in the low temperature range (COLD WHITE); traditional peroxide stabilisers, which often contain phosphorous, are not required. The low bleaching temperature protects the cotton (no fibre damage) and improves crease

resistance (fewer crease-prevention and softening agents required). Low-temperature bleaching with OPTAVON LTB leads to considerable energy and water savings as well as faster process times.

SETACID AB conc is used to neutralise alkaline finishing processes (scouring, bleaching). The product ensures the adjustment of mildly acidic to neutral pH values as required by the STANDARD 100 by OEKO-TEX®, for example. SETACID AB conc is a concentrated preparation, making it particularly resource-efficient.

ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	blue-sign®	GOTS 6.0	SVHC	NATURAL RESOURCES	READILY BIODEGRADABLE
TISSOCYL COD	Level 3	conforms to classes I-IV	✓	✓	free	✓	clay*
OPTAVON LTB	Level 3	conforms to classes I-IV	✓		free		inorganic substances
SETACID AB conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓

* The product contains an inorganic component which is non-biodegradable.

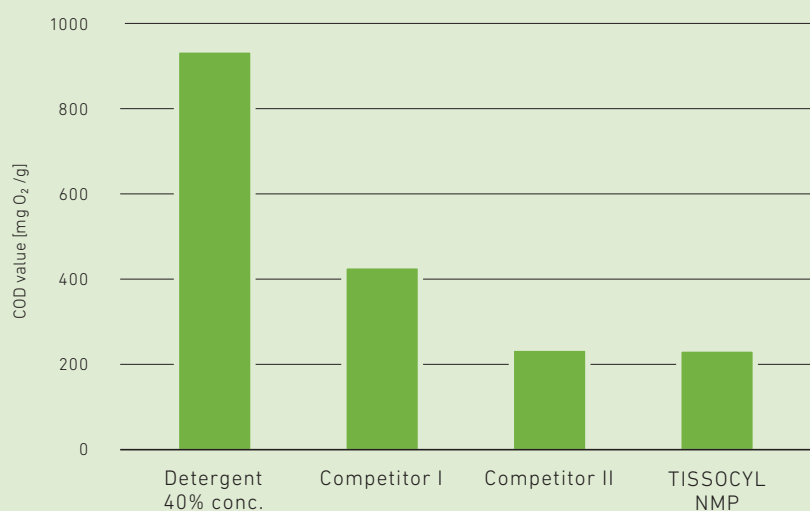




DETERGENTS

The special detergent TISSOCYL NMP contains natural microparticles that are capable of absorbing oily substances. This enables the efficient cleaning of synthetic products. Compared to conventional detergents, TISSOCYL NMP is characterised by a considerably lower COD and BOD content, which helps protect our environment.

ECOLOGICAL ASPECTS OF THE USE OF TISSOCYL NMP



- ▶ Reduction of wastewater load due to low COD and BOD values:
COD 262 mg O₂/g product
BOD 63 mg O₂/g product
- ▶ Organic components are readily biodegradable
- ▶ Not dangerous to aquatic organisms (WHC 1)

TISSOCYL RC 9 is a special detergent for synthetic fibres (virgin and recycled polyester, polyamide) and fabric blends containing elastane; it achieves exceptional washing results even at low processing temperatures. When suitable qualities are present, it is possible to speed up the process by means of single-bath washing and dyeing (ECONDye) or washing and optical brightening (ECONBright), which significantly reduces the amount of water and energy consumed per batch.

The highly concentrated NEWALOL PFN wetting agent has a versatile range of uses in the textile chain, such as speeding up the wetting of spools or increasing pick-up during coating. It works within a wide pH range, is extremely low-foaming and readily biodegradable.

EMULSIFYING PROPERTIES OF DIFFERENT DETERGENTS



Without detergent

TISSOCYL RC 9

Detergent

Detergent

Detergent

Emulsification test:
5 g/l coloured silicone oil
3 g/l detergent formulation
1 g/l soda ash

Test conditions:
Liquor temperature of 40 °C, assessment after 60 min at room temperature.

► TISSOCYL RC 9 DISPLAYS EXCELLENT SILICONE OIL EMULSIFYING PROPERTIES EVEN AT TEMPERATURES STARTING FROM 40 °C

ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	blue-sign®	GOTS 6.0	SVHC	APEO-FREE	NATURAL RESOURCES	READILY BIODEGRADABLE
TISSOCYL NMP	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	clay*
TISSOCYL RC 9	Level 3	conforms to classes I-IV	✓	✓	free	✓		✓
NEWALOL PFN	Level 3	conforms to classes I-IV	✓	✓	free	✓		✓

* The product contains an inorganic component which is non-biodegradable.



COLD WHITE

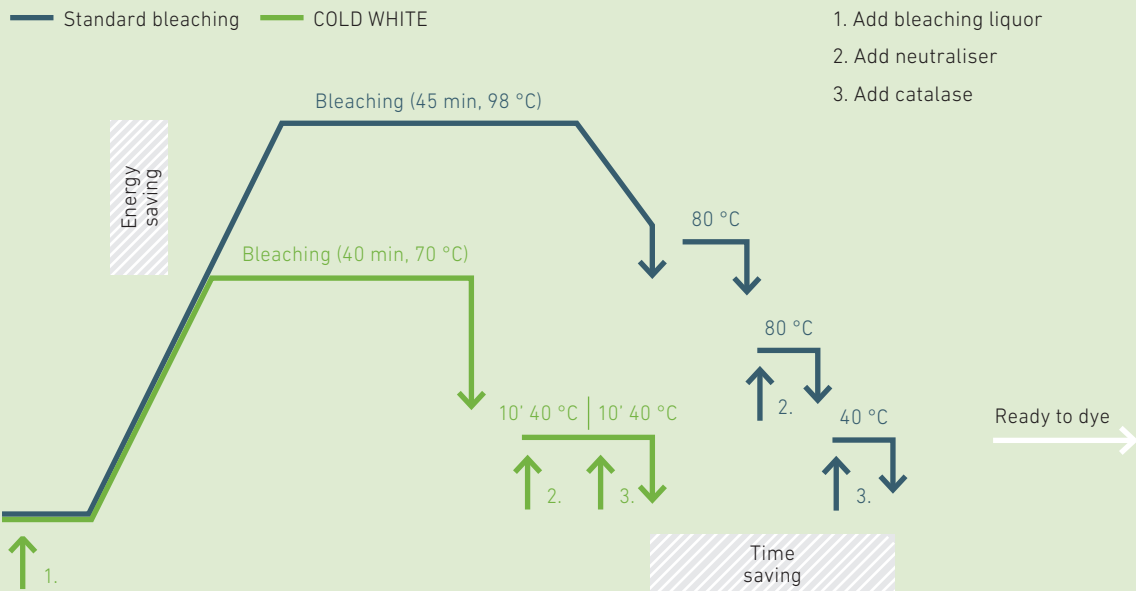
The sustainable bleaching technology enables safe, short and simple discontinuous bleaching processes at temperatures below 80 °C.

BENEFITS

- ▶ Relaxed bleaching
- ▶ Provides savings in water and wastewater
- ▶ Significant reduction of COD in the wastewater load
- ▶ Less energy consumption
- ▶ Shorter process time

COLD WHITE – THE SUSTAINABLE BLEACHING TECHNOLOGY

Standard bleaching vs. low-temperature ecological COLD WHITE bleaching





LUBRICANTS

The universal warp waxing agent ENSIMOL KW conc enhances the processing properties of warps made from synthetic yarns and their blends with natural fibres to help reduce production costs. The product's low input quantities and excellent washability increase production efficiency while simultaneously protecting the environment.

The main area of application for KATAMIN BW 3.0 is the smoothing of cellulosic yarns in the exhaust process to enable significant time savings in further processing. KATAMIN BW 3.0 preserves the natural hydrophilic properties of cotton, which in turn conserves resources as smaller quantities of additional hydrophilic softeners are needed.

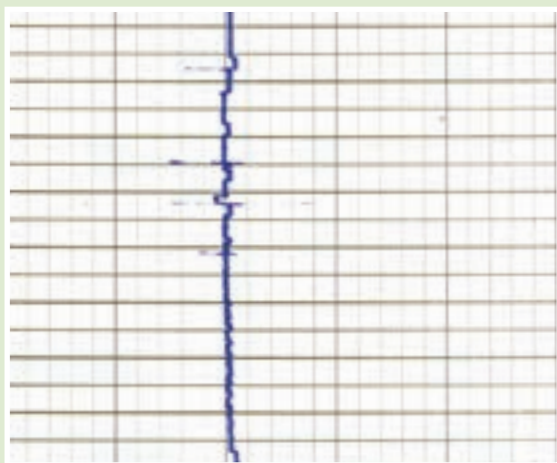
ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	blue-sign®	GOTS 6.0	SVHC	NATURAL RESOURCES	READILY BIODEGRADABLE
ENSIMOL KW conc	Level 3	conforms to classes I-IV	✓	✓	free		✓
KATAMIN BW 3.0	Level 3	conforms to classes I-IV	✓	✓	free		readily eliminable

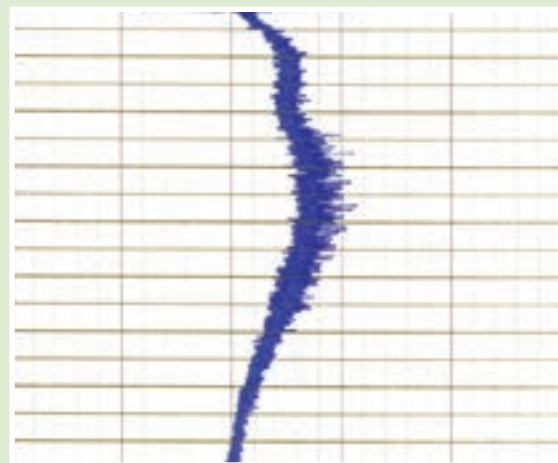
GLIDING PROPERTIES

(Friction values, measured by Zweigle μ -Meter)

KATAMIN BW 3.0



Competitive product



The pictures show significantly lower friction values when using KATAMIN BW 3.0 compared to a similar competing product. The very even distribution over the whole bobbin results in lower yarn break rates and thus higher efficiency in further processing as well as in lower barriness in knitted goods.



ANTI-YELLOWING AGENTS

PROTELAN LTY is used to prevent phenolic yellowing on polyamide, polyester and blends with elastane. Since the product is highly effective even at 40 °C, the process time for anti-yellowing protective treatment can be shortened, and energy can be saved. PROTELAN LTY is readily biodegradable.

PROTELAN PSP is a highly effective anti-yellowing agent designed to reduce yellowing of polyamide and blends with elastane. PROTELAN PSP imparts excellent results and offers durability to washing. Consequently, protection against yellowing is guaranteed after several household wash cycles. PROTELAN PSP is free of nitrogen.

PROTELAN CF2 is used to reduce thermal yellowing of polyamide and polyamide/elastane, which is caused by fixing or by contact heat during molding. The result is a high degree of whiteness and brilliant colours. Combined with the ECONBright process, process time and production costs can be significantly reduced. PROTELAN CF2 is readily biodegradable.

ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	blue-sign®	GOTS 6.0	SVHC	APEO-FREE	FORMALDEHYDE-FREE	READILY BIODEGRADABLE
PROTELAN LTY	Level 3	conforms to classes I-IV	✓		free	✓	✓	✓
PROTELAN CF2	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
PROTELAN PSP	Level 3	conforms to classes I-IV	✓		free	✓	✓	eliminable





LT ANTI-YELLOWING

The anti-yellowing product PROTELAN LTY produces efficient effects even at low temperatures and allows for ecological and economical processes.

BENEFITS

- ▶ Excellent protection against yellowing at 40 °C
 - ▶ Short process time
 - ▶ Provides savings in energy and time
 - ▶ Combinable with selected softeners or stiffening agents
 - ▶ Biodegradable
-

PROTELAN LTY – THE HIGHLY EFFECTIVE ANTI-YELLOWING AGENT FOR POLYAMIDE AND MIXTURES, DESIGNED FOR LOW-TEMPERATURE APPLICATION

Phenolic yellowing protection of PROTELAN LTY on polyamide/elastane.

Test method: Phenolic Yellowing Test M&S C20B

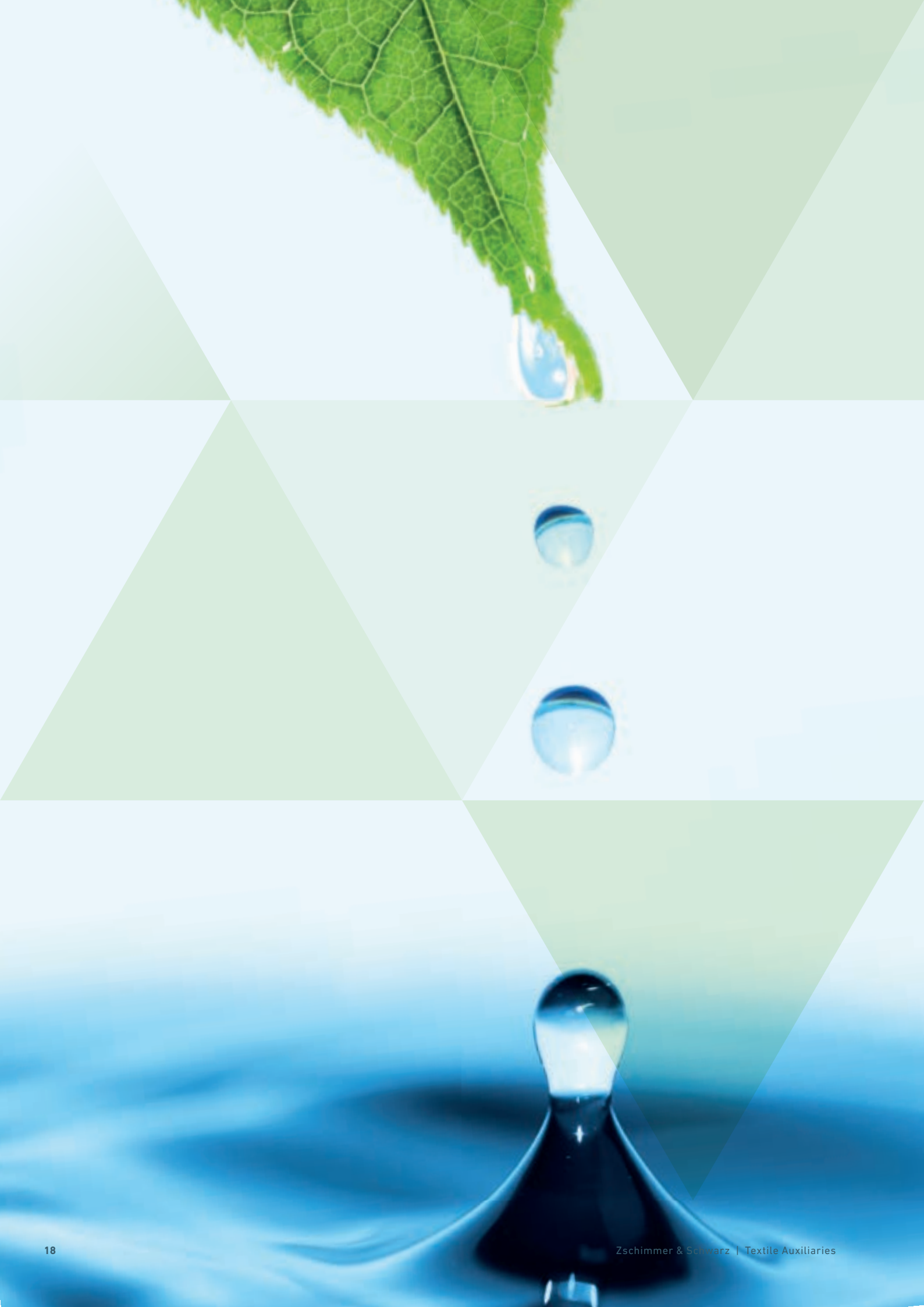


With 4% PROTELAN LTY



Without protection against yellowing





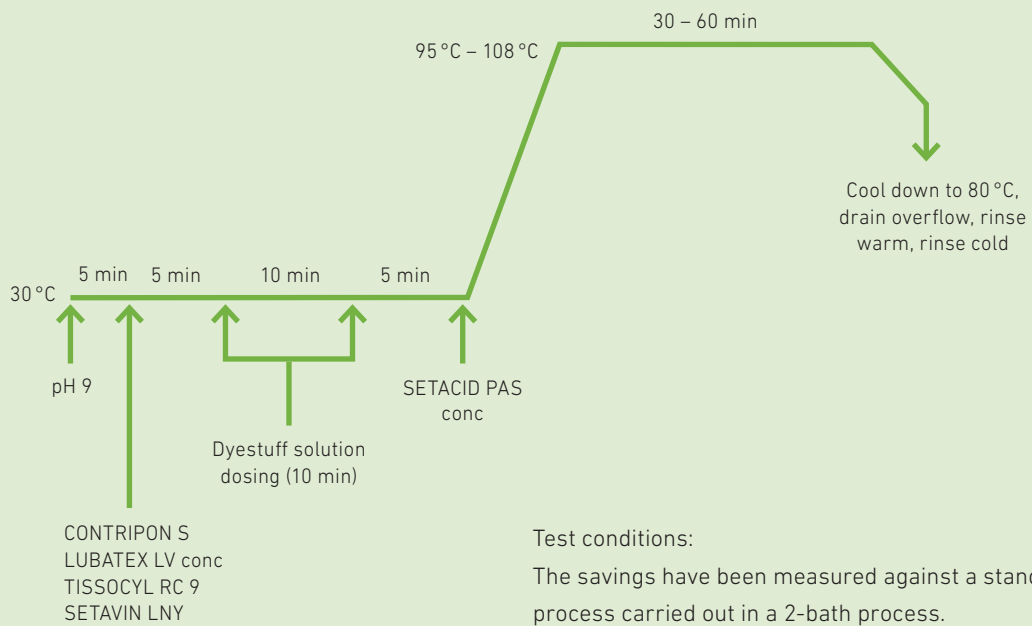
ECONDye

ECONDye is the innovative process for single-bath washing and dyeing of polyamide fibres and their blends with elastane – because we need water to live, not to dye.

BENEFITS

- ▶ Water saving up to 65%
- ▶ Wastewater saving up to 65%
- ▶ Time saving up to 45%
- ▶ Energy saving up to 55%
- ▶ Increased production capacity

ECONDye – THE INNOVATIVE PROCESS FOR THE SUCCESSFUL TREATMENT OF POLYAMIDE FIBRES AND THEIR BLENDS WITH ELASTANE





DYEING AUXILIARIES FOR NATURAL FIBRES

SETACID AB conc is a buffer solution for the pH adjustment of dye baths in the acidic range. The excellent pH consistency ensures reliable reproducibility. SETACID AB conc is a concentrated preparation, which renders it particularly resource-efficient.

LUBATEX LV conc, based on natural raw materials, is a highly concentrated crease-preventing agent for all types of fibres. The use of LUBATEX LV conc increases process reliability and reproducibility while saving resources.

ZS-DYESET RFT is a highly effective dyebath conditioner for "right-first-time" dyeings of cellulosic fibres and their blends. Due to its excellent dispersion of reactive dyes as well as sequestering of water hardness elements and heavy metal ions, ZS-DYESET RFT improves dyebath stability and reproducibility to a top level. Dyehouses may avoid multiple dyeing cycles and save re-dyeings and corrections of shade as well. The "right-first-time" ratio will be strongly increased, and consequently, process time and energy will be saved as well. ZS-DYESET RFT is bluesign®- and GOTS 6.0-approved.

ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	bluesign®	GOTS 6.0	SVHC	NATURAL RESOURCES	READILY BIODEGRADABLE	FORMALDEHYDE-FREE
SETACID AB conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
LUBATEX LV conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
ZS-DYESET RFT	Level 3	conforms to classes I-IV	✓	✓	free			✓
ZETESAL LTS	Level 3	conforms to classes I-IV	✓	✓	free			✓
ZETESAL FIX	Level 3	conforms to classes I-IV	✓	✓	free		readily eliminable	✓



ZETESAL LTS is an after-soaping agent for reactive dyeings and printings on cellulose fibres. The use of ZETESAL LTS allows soaping to take place at 70 °C to achieve excellent wash fastness. Environmentally friendly low-temperature soaping using ZETESAL LTS leads to significant savings in process time and energy.

For even better wash fastness, the formaldehyde-free ZETESAL FIX is used for the aftertreatment of reactive dyeings and printings to enable a faster after-soaping process.



LT SOAPING

The fastness of reactive dyes is improved with the after-soaping agent ZETESAL LTS, which is effective even in the low-temperature soaping process.

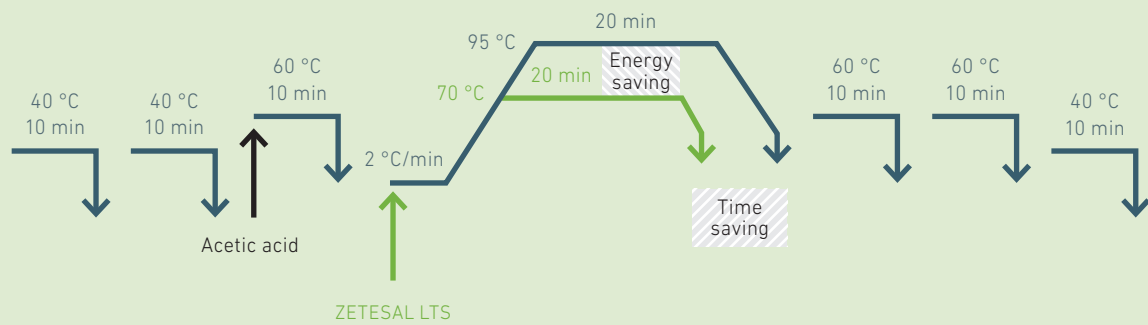
BENEFITS

- ▶ Excellent soaping effects for reactive dyeings on cellulosics
- ▶ Soaping at 70 °C is possible
- ▶ Provides savings in energy and time
- ▶ Improves fastness properties

LT SOAPING – OUR SUSTAINABLE SOAPING TECHNOLOGY AFTER REACTIVE DYEINGS

Standard soaping vs. eco-friendly low-temperature soaping

— Standard process — LT Soaping







DYEING AUXILIARIES FOR SYNTHETIC FIBRES

The SETAVIN PE levelling and dispersing agent is used for the dyeing of polyester under HT conditions. It is based on renewable raw materials and conserves resources thanks to its concentrated form.

SETAVIN PLD is a highly efficient levelling agent for the dyeing of polyester. SETAVIN PLD leads to a well-balanced levelling effect, synchronises the exhaustion of the dyes and has an outstanding dispersing effect on disperse dyes. Its application fields are exhaust and continuous dyeing. Due to its selected ingredients, SETAVIN PLD can also be used for the dyeing of automotive textiles. SETAVIN PLD is bluesign®-approved, blue rated and fulfils the requirements of the Global Recycled Standard (GRS 4.2) as well.

SETAVIN SU-E is a concentrated levelling agent for the dyeing of polyester, polyester microfibres and polyester/elastane blends. The possibility to dye at low temperatures (120 °C) enables energy savings and shorter production times. The low-foaming properties of SETAVIN SU-E reduces the need for additional defoamers.

ZETESAN DHT, based on renewable raw materials, is a special dispersing agent for the dyeing and after-cleaning of polyester materials. Its exceptional stability under HT conditions enhances operational reliability and reduces costs.

ZETESAN REP is the specialist for recycled polyester (rPET). It has highest dispersing and binding power for oligomers and other stains on recycled polyester, virgin polyester and other blends. The usage of ZETESAN REP avoids the so-called "grey veil" in dyeing. Furthermore, it improves the running properties of yarns during their processing. ZETESAN REP can also be used in reduction-clearing processes and machine cleaning. The product is bluesign®-approved and meets the Global Recycled Standard (GRS 4.2) – and thus supports a circular economy and sustainability.

ZETESAL NWM is an after-cleaning agent for polyester and polyester/wool blends which is free of sulphur and saves wastewater. ZETESAL NWM helps achieve significantly shorter process times and reduced water and energy requirements.

SETAVIN LNY is an all-round levelling agent for the dyeing of polyamide. It has dyestuff and fibre affinity and shows excellent migration properties even with high-affinity dyestuffs. SETAVIN LNY is suitable for acid, metal complex, direct and reactive dyestuffs and can also be used in automatically dosing units. SETAVIN LNY is bluesign®-approved and blue rated.

ZETESAL FAP is used as an aftertreatment and reserving agent for polyamide dyeings and printings and is characterised by its low phenol content. ZETESAL FAP is GOTS 6.0- and bluesign®-approved.

ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	blue-sign®	GOTS 6.0	SVHC	GRS 4.2	NATURAL RESOURCES	READILY BIODEGRADABLE
AUXILIARIES FOR POLYESTER DYEING								
SETAVIN PE	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
SETAVIN PLD	Level 3	conforms to classes I-IV	✓		free	✓		✓
SETAVIN SU-E	Level 3	conforms to classes I-IV	✓		free	✓	✓	readily eliminable
ZETESAN DHT	Level 3	conforms to classes I-IV	✓		free	✓	✓	✓
ZETESAN REP	Level 3	conforms to classes I-IV	✓		free	✓	✓	
ZETESAL NWM	Level 3	conforms to classes I-IV	✓	✓	free	✓		readily eliminable
SETACID AB conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
LUBATEX LV conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
AUXILIARIES FOR DYEING OF POLYAMIDE								
SETAVIN LNY	Level 3	conforms to classes I-IV	✓		free	✓		readily eliminable
ZETESAL FAP	Level 3	conforms to classes I-IV	✓	✓	free	✓		eliminable
SETACID AB conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓
LUBATEX LV conc	Level 3	conforms to classes I-IV	✓	✓	free	✓	✓	✓



LT DYEING AND ZS CLEARING SYSTEM

The eco-friendly systems for polyester articles and blends with elastane facilitate the dyeing and aftertreatment process in both ecological and economic aspects. After the textile has been dyed in our ecological LT Dyeing process, ZS Clearing enables you to wash it in an environmentally friendly way.

BENEFITS

- ▶ Provides savings in water, wastewater and energy
- ▶ Significant reduction of COD in the wastewater load
- ▶ Less energy consumption
- ▶ Shorter process time

STANDARD PROCESS VS. ECO-FRIENDLY LT DYEING/ZS CLEARING





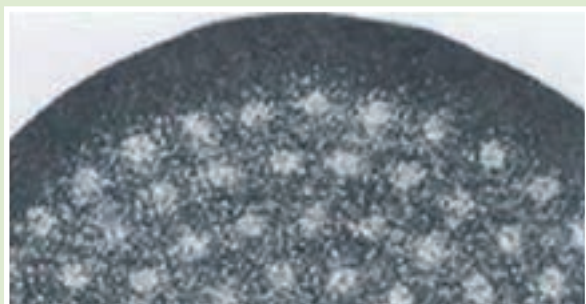


RECYCLED POLYESTER – rPET

ZETESAN REP is the specialist for recycled polyester (rPET).
The product helps to decrease environmental pollution and supports a circular economy and sustainability.

ZETESAN REP – EXCELLENT OLIGOMER AND STAIN REMOVING

Oligomer dispersing test in acid dyebath
(1.5 g/l oligomers, 130 °C 20 min, 70 °C, black paper filtration)



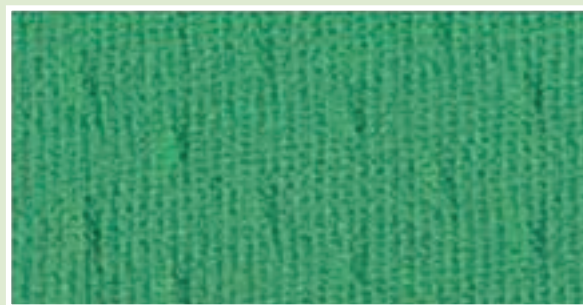
No dispersing agent



ZETESAN REP



"Grey veil"



No "grey veil"

BENEFITS

- ▶ Excellent dispersing and removing of oligomers and other stains
- ▶ Avoids "grey veil" on rPET fabric
- ▶ Used inside dyebath without influence on shade
- ▶ Further applications in reduction cleaning processes and cleaning of machines
- ▶ Improves running properties of yarn processing





FINISHING

The cationic softener ADULCINOL T7515 is primarily used for cellulose textiles. In addition to the ecological benefits – the product is readily biodegradable and GOTS 6.0- and bluesign®-approved – ADULCINOL T7515 ensures an exceptionally smooth handle and is highly resistant to yellowing.

CEFASOFT GW is an AEEA-free, non-yellowing softener and compatible with optical brighteners and resin-finishing products. The chemical character of this softener meets the most common requirements of eco-labels such as bluesign®, ZDHC MRS L or STANDARD 100 by OEKO-TEX®. CEFASOFT GW can be universally applied to all kinds of fibres. It imparts a pleasant, soft touch to the goods, improves the sewability of knitwear and hence prevents needle damage to stitches in ready-to-wear manufacturing.

The bluesign®-approved silicone-based softener CEFASOFT SGL with siloxane D4/D5/D6 contents of less than 0.1% is used for the finishing of piece goods made of cellulose, wool and synthetic fibres. It imparts a very pleasant and smooth handle to the goods and considerably improves the sewability and elasticity of knitwear. Since the product is a macro-emulsion, it mainly affects the surface touch of the textile goods: the typical smooth and very soft “silicone touch” can be achieved.

CONTRIPON S is a silicone-based, universally applicable foam-preventing and defoaming agent with siloxane D4/D5/D6 contents of less than 0.1%. This defoamer can be used in nearly all textile finishing processes to prevent or reduce foam formation, thus increasing the safety of finishing processes and enabling a high production speed. Due to its very high efficiency and effectiveness, only extremely low quantities are necessary – which helps protect our environment as well.

ANTHYDRIN DNF is a fluorine- and silicone-free water repellent for polyester, polyamide and cotton. It was especially developed to meet the requirements of reducing and eliminating PFOS and PFOA as critical substances while showing a very good water repellency as well as washing resistance combined with a soft handle.



AIRMAX 2.0 is a special finishing agent which is able to improve indoor air quality by eliminating harmful substances (such as formaldehyde, ammonia or acetaldehyde) as well as reducing bad smells.

ECOLOGICAL PROPERTIES

PRODUCT	ZDHC MRSL V2.0	STANDARD 100 by OEKO-TEX®	blue-sign®	GOTS 6.0	SVHC	NATURAL RESOURCES	READILY BIODEGRADABLE	FORMAL-DEHYDE-FREE	D4/D5/D6 SILOXANE
SOFTENER									
ADULCINOL T7515	Level 3	conforms to classes I-IV	✓	✓	free		✓	✓	free
CEFASOFT GW	Level 3	conforms to classes I-IV	✓	✓	free		✓	✓	free
CEFASOFT SGL	Level 3	conforms to classes I-IV	✓	✓	free		✓	✓	< 0.01%
DEFOAMING AGENT									
CONTRIPON S	Level 3	conforms to classes I-IV	✓	✓	free		✓	✓	< 0.01%
REPELLENT									
ANTHYDRIN DNF	Level 3	conforms to classes I-IV	✓		free		✓	✓	free
AIR QUALITY ENHANCER									
AIRMAX 2.0		conforms to classes I-IV			free		*	✓**	free

* The product contains an inorganic component which is non-biodegradable.

** The product binds formaldehyde.



AIRMAX 2.0

AIRMAX 2.0 is a special finishing agent which is able to improve indoor air quality in the home or car by reducing bad smells as well as eliminating harmful substances.

BENEFITS

- ▶ Eliminates harmful substances (e.g. formaldehyde and acetaldehyde) from living spaces
- ▶ Reduction of bad smells upon contact with indoor air
- ▶ Due to its catalytic activity, the product is effective for the whole life cycle of the textile
- ▶ Applicable in water-based liquors, coatings and dispersions and by spraying or padding
- ▶ Meets the requirements of GBT 27630

INDOOR APPLICATION

- ▶ Carpets
- ▶ Curtains
- ▶ Wallpapers/wall paint
- ▶ Car interiors
- ▶ Hospitals
- ▶ Retirement homes

REDUCTION OF POLLUTANTS BY AIRMAX 2.0

POLLUTANT	REDUCTION BY	TIME
ACETALDEHYDE	95%	after 16 hours
AMMONIA	95%	after 2 hours
FORMALDEHYDE	90%	after 2 days
ACETIC ACID	85%	after 8 hours
NICOTINE	70%	after 2 days

CAR APPLICATION

- ▶ Carpets
- ▶ Headliners
- ▶ Seat covers
- ▶ Parcel shelf
- ▶ B pillar





PRODUCT REGISTER

PRODUCT NAME	bluesign®-APPROVED	ZDHC MRSL **	GOTS	STANDARD 100 BY OEKO-TEX® ***	PAGE
ADULCINOL T7515	✓	✓	✓	✓	30
AIRMAX 2.0		*		✓	31, 32
ANTHYDRIN DNF	✓	✓		✓	30
CEFASOFT GW	✓	✓	✓	✓	30
CEFASOFT SGL	✓	✓	✓	✓	30
CONTRIPON S	✓	✓	✓	✓	30
ENSIMOL KW conc	✓	✓	✓	✓	14
KATAMIN BW 3.0	✓	✓	✓	✓	14
LUBATEX LV conc	✓	✓	✓	✓	20, 25
NEWALOL PFN	✓	✓	✓	✓	10
OPTAVON LTB	✓	✓		✓	8
PROTELAN CF2	✓	✓	✓	✓	15
PROTELAN LTY	✓	✓		✓	15, 16
PROTELAN PSP	✓	✓		✓	15
SETACID AB conc	✓	✓	✓	✓	8, 20, 25
SETAVIN LNY	✓	✓		✓	24
SETAVIN PE	✓	✓	✓	✓	24
SETAVIN PLD	✓	✓		✓	24
SETAVIN SU-E	✓	✓		✓	24
TISSOCYL COD	✓	✓	✓	✓	8
TISSOCYL NMP	✓	✓	✓	✓	10
TISSOCYL RC 9	✓	✓	✓	✓	10
ZETESAL FAP	✓	✓	✓	✓	24
ZETESAL FIX	✓	✓	✓	✓	20
ZETESAL LTS	✓	✓	✓	✓	20, 22
ZETESAL NWM	✓	✓	✓	✓	24
ZETESAN DHT	✓	✓		✓	24
ZETESAN REP	✓	✓		✓	24, 28
ZS-DYESET RFT	✓	✓	✓	✓	20

* Products comply with ZDHC MRSL ** ZDHC Gateway™ conformance level 3 *** Products comply with classes I - IV

LIST OF ABBREVIATIONS

AEEA	AMINOETHYLETHANOLAMIN
APEO	ALKYL PHENOL ETHOXYLATES
BOD	BIOCHEMICAL OXYGEN DEMAND
COD	CHEMICAL OXYGEN DEMAND
GOTS	GLOBAL ORGANIC TEXTILE STANDARD
GRS	GLOBAL RECYCLED STANDARD
HT	HIGH TEMPERATURE
LT	LOW TEMPERATURE
PFC	PERFLUOROCARBONS
PFOA	PERFLUOROOCTANOIC ACID
PFOS	PERFLUOROOCTANESULFONIC ACID
SVHC	SUBSTANCES OF VERY HIGH CONCERN
WHC	WATER HAZARD CLASS (GERMAN REGULATION)
ZDHC	ZERO DISCHARGE OF HAZARDOUS CHEMICALS
MRSL	MANUFACTURING RESTRICTED SUBSTANCES LIST
ZS	ZSCHIMMER & SCHWARZ



Chemistry tailor-made

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