CLARIANT

Technical Data Sheet
TEXCARE® SRN 260

CLARIANT INTERNATIONAL LTD

Rothausstrasse 61
4132 Muttenz
Switzerland

BUSINESS UNIT INDUSTRIAL & CONSUMER SPECIALTIES

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Nonionic Soil Release Polyester for household and industrial products

Composition	Water soluble polyester

Product properties [1]

Appearance	Clear to lightly turbid liquid
Colour	Light yellow
Odour	Product specific
Active substance	Approx. 60 %
pH (20°C, 50 g/l)	Approx. 4.5
Viscosity (25°C)	Approx. 1500 mPa*s
Melting range	< -40°C

Profile

TexCare® SRN 260 is a water soluble nonionic soil release polyester exhibiting market leading performance in liquid detergents and cleaners. Due to its nonionic character, TexCare® SRN 260 exhibits a broad tolerance to the most common surfactant systems.

[1] These characteristics are for guidance only and not to be taken as product specifications. The tolerances are given in the product specification sheet. For further product properties, specifications, safety and ecological data, please refer to the MSDS.

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Soil Release Effect

Fabrics made from polyester and polyester/cotton can be difficult to clean when they are soiled with oily or fatty stains. Such stains adhere strongly to the hydrophobic synthetic fibres, which are then only poorly wetted by the washing liquor.

If these fabrics are washed with a detergent containing a soil release polymer from the TexCare® series, e.g. TexCare® SRN 260, the soil release polyester is adsorbed onto the hydrophobic fibres and forms a hydrophilic film. This prevents the soil from adhering directly to the fibres. Furthermore, the affinity of hydrophobic soils for the hydrophilic film is reduced significantly compared to the untreated fibres. This makes it much easier to remove oily stains from the fabric during subsequent washing.

The soil release effect was tested on polycotton using sebum/carbon black and dirty motor oil as model soils.

Knitted polycotton (50:50) swatches were pre-washed with a standard liquid detergent containing either no soil release polymer or 1% active TexCare® SRN 260. The swatches were stained with either sebum containing 0.5% carbon black or dirty motor oil, allowed to dry overnight and washed again without polymer. The results of a colorimetric evaluation and the appearance of the swatches are shown in Fig. 1.

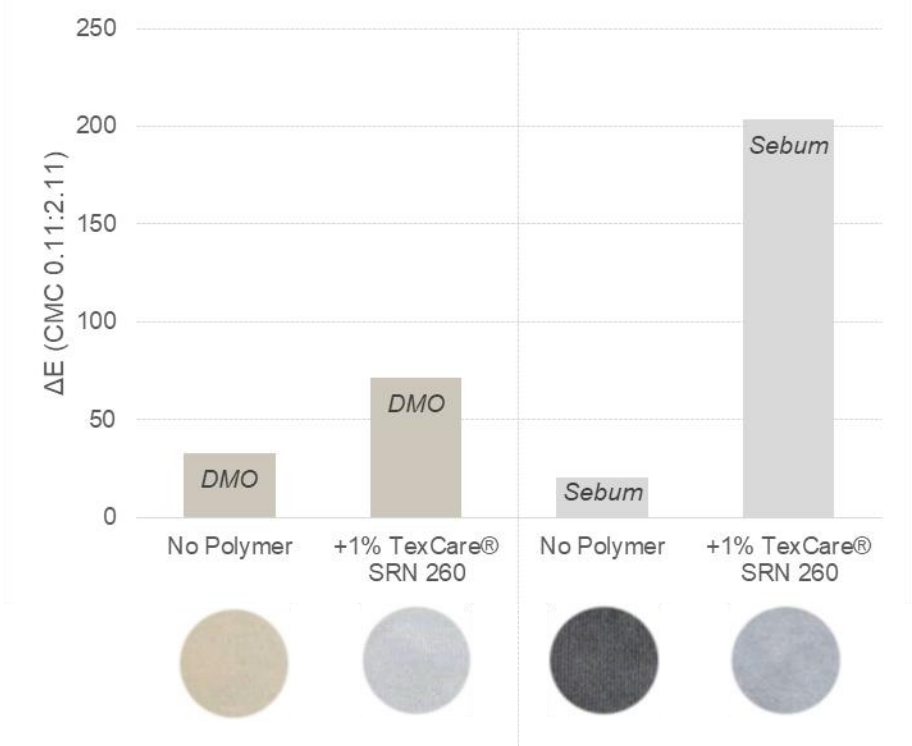

Fig. 1: Improvement of soil removal using TexCare® SRN 260 on knitted polycotton. Frontloading washing machine, 40°C, 3.5 g/l liquid detergent

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Primary Detergancy

A further benefit of TexCare® SRN 260 is the improvement of primary detergency on oily and greasy soils. Even without a first prewash of the fabric to give it a soil release finish, soil is removed better from polyester and polyester/cotton. Fig. 2 shows the results of washing soiled polycotton swatches with a variety of soils at 40°C with a standard liquid detergent containing 1% active TexCare® SRN 260.

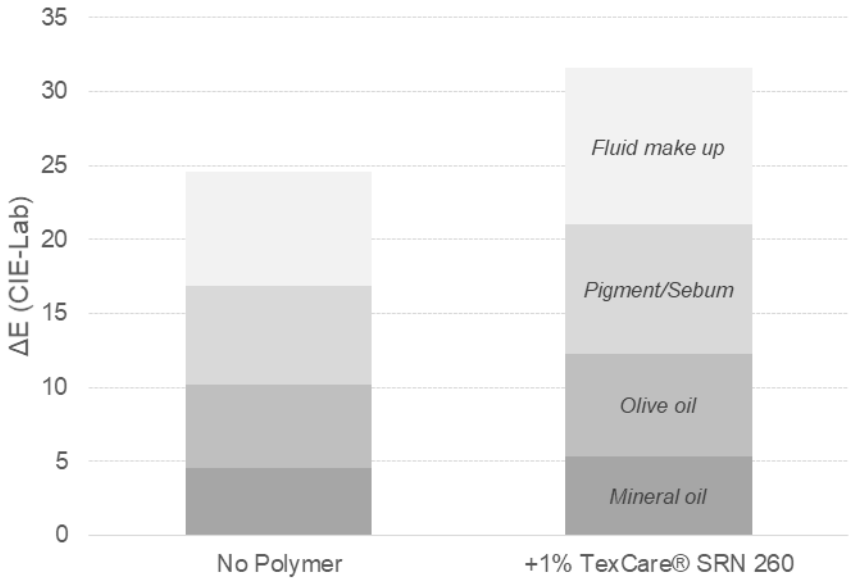

Fig. 2: Improvement of primary detergency using TexCare® SRN 260 on polycotton. Frontloading washing machine, 40°C cotton cycle, 4.3 g/l liquid detergent.

Anti-Redeposition

Lime soap and various soils present in the washing liquor need to be dispersed in order to avoid redeposition onto the fabrics present. A detergent which poorly fulfills this requirement will lead to greying of the washed garments. Due to its amphiphilic structure, TexCare® SRN 260 can effectively aid in the dispersion of this soil and prevents redeposition through repelling soil from the polyester fabric surface. Fig. 3 shows images of polycotton swatches washed with a 5% carbon black in olive oil mixture dosed at 0.5 g/l.

As Fig. 3 shows, the inclusion of small amounts of TexCare® SRN 260 can lead to large improvements in anti-redeposition performance.

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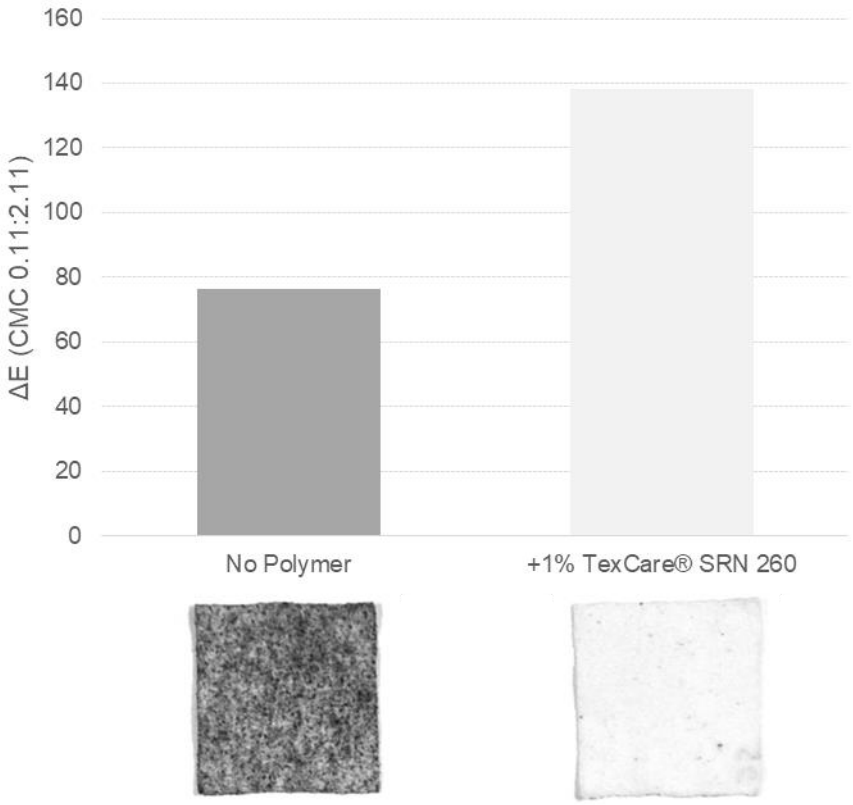

Fig. 3: Improvement of anti-redeposition of a liquid detergent (left) through inclusion of 1% a.m. TexCare® SRN 260 (right) on polycotton. Tergotometer, 25°C for 30 min, 1 g/l liquid detergent, 0.5 g/l olive oil-carbon black soil.

Hydrophilization

Wear comfort of clothes is a very important topic for consumers. Compared to hydrophilic cotton fabrics, vapour cannot pass through hydrophobic standard polyester fabrics, which leads to an unpleasant wear comfort. By deposition of TexCare® SRN 260, water absorption of the dried fabric increases strongly.

Recommended Applications

TexCare® SRN 260 can be used in all kinds of liquid detergent formulations, e.g. heavy duty-, color and fine fabric detergents. In particular, TexCare® SRN 260 shows improved stability against hydrolysis at higher pH values than other TexCare® grades.

TexCare® SRN 260 can also be formulated into fabric softeners together with cationic surfactants. In addition, TexCare® SRN 260 may be applied in liquid hard surface cleaners.

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Formulation advice

TexCare® SRN 260 is compatible with most common surfactant systems. Due to its partially hydrophobic nature, slight turbidities might occur when adding TexCare® SRN 260 to a formulation. In this case, it might help to reduce the soap content of the formulation, add additional solvent (e.g. propylene glycol) or switch to the more hydrophilic TexCare® SRN 170.

In some cases, most notably when TexCare® SRN 260 has become turbid itself, turbidity may remain upon formulation. Typically this turbidity can be removed by brief heating and stirring of the formulation at around 40 to 50°C. Alternatively TexCare® SRN 260 can be pre-blended at around 40 to 50°C with a nonionic surfactant, such as Genapol® LA 070, before preparing the final detergent formulation.

Storage

TexCare® SRN 260 can be stored for up to 2 years in original sealed containers at room temperature under the recommended conditions.

The clear solution can become slightly turbid or form a slight precipitation but this is typical for a water-soluble polyester and does not affect the efficiency of the product. At lower temperatures the solution becomes slightly turbid or crystallizes but this is reversible upon warming. The product should be homogenized before use.