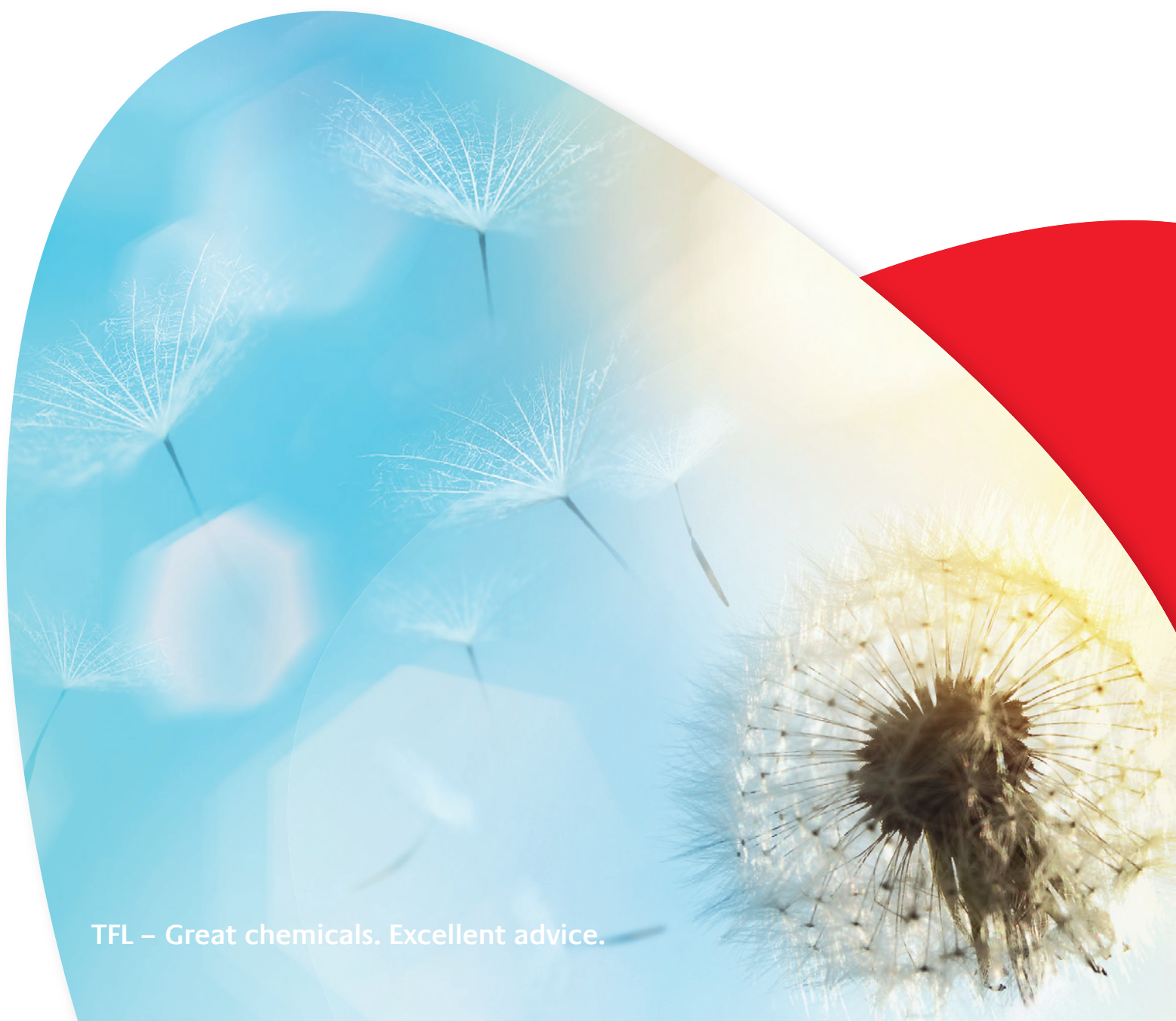




LEVOTAN® L and LB

Looking for super-soft, lightweight and fluffy leather?

» The high-performing
biomimetic polymer solution



TFL – Great chemicals. Excellent advice.

LEVOTAN® L and LB



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The challenge:

The automotive and aviation industries demand lightweight leather to help reduce fuel consumption and meet emissions targets. Footwear manufacturers, including those producing hi-tech sports shoes, are also demanding lightweight leather to reduce end user fatigue and enhance their performance. Across all segments there is a strong demand for ultra soft leather that delivers comfort with maximum performance for the end user.

This creates a key challenge for tanners: how to produce ultra soft high-performance leather and making it as light in weight as possible? Certain traditional natural fat and oil based fatliquors are relatively heavy so increasing the dosage to achieve the desired softness simply increases leather weight and density. In addition these materials can be increasingly subjected to availability constraints, rising cost and regulatory pressures.

The solution:

The answer is provided by the unique biomimetic **LEVOTAN® L** and **LB** softening polymers. These impart a high level of softness while also delivering lightweight, low density and fluffy characteristics, together with the required fastness profile.



Benefits at glance

1

Outstanding softness

- Low-density / lightweight
- Inner softness, no 'rattle'
- Silky natural touch
- Improved milling uniformity
- Consistent composition
- Uniform leather properties

2

Performance without compromise

- Improves tear & tensile strength
- Good lightfastness & heat yellowing resistance
- Strong fixation, no migration
- Supports washability & stay-soft
- No increase in hydrophilic character
- Ideal for hi-tech and waterproof



LEVOTAN® L and LB

Superior chemistry

- No natural fats or oil content
- No fatty acid spew possible
- AOX / Halogen-free
- Bisphenols BPS/F-free
- Phenol & formaldehyde-free

4

Application flexibility

- Apply during &/or after neutralization
- In retanning &/or fatliquoring
- Chrome, vegetable & wet-white tanned leather

3

1. Outstanding softness

LEVOTAN® L and **LB** are biomimetic products that behave like super softening natural agents, while being precisely synthesized to ensure a light-weight, low-density leather results. Their specific particle size and distribution support a more even disposition and thus more uniform grain pattern on milling and, importantly, ensures the development of inner softness tackling common bone or rattle effect together with a silky and natural touch.

2. Performance without compromise

LEVOTAN® L and **LB** both feature a self-emulsifying system with ultra softening performance that ensures effective inter-fibre lubrication and reduced friction for maximum strength. This system also helps to stabilize moisture content preventing brittleness caused by over-drying. These polymers also avoid the risk of over fatliquoring which weakens the fibre structure thus also supporting optimum tear and tensile strength.

Owing to their strong fixation to the leather matrix and thus non-migrating behaviour, they are ideal for use in washable leathers that maintain their inherent softness. Traditional fatliquors that use sulphonate groups can increase hydrophilic character, in contrast, these emulsifier-free self-emulsifying polymers are ideal for waterproof leather and reducing excess water absorption on finishing, so the leather remains soft. As aliphatic polymers with neutral odour, the fastness properties including to light and heat make them suitable for automotive and aviation applications. (To boost reflectometric values the addition of **LEVOTAN® WS** is recommended).

3. Application flexibility

The stable chemistry of these modern polymers provides a high degree application flexibility. They can be applied during or after neutralization, as well as in retanning or fatliquoring. The fixation is particularly strong in chrome tanned leather, while they are also recommended and widely used for vegetable tanned / **VEGTAN™** leather and wet white.

4. Superior chemistry

Unightly fatty spew stains occur when natural fats and oils that contain saturated free fatty acids such as triglycerides or stearic components, react to changes in temperature and humidity. Increasing the addition of such fats and oils to improve softness can, therefore, increase the risk of spew. These modern biomimetic polymers do not contain any fats or oils and, as a result, cannot form fatty spew.

In addition, they are completely free of bisphenols BPS and BPF, phenols and formaldehyde. In transport leather that must meet with strict fire safety requirements, they are increasingly substituting traditional fatliquors to enhance flame resistance, while remaining entirely free of halogens / AOX.





The data and results presented are based on internal tests conducted by TFL Ledertechnik GmbH under specific conditions and are provided for informational purposes only. Results may vary depending on materials, processes and operating environments. No warranty or guarantee is given, and TFL Ledertechnik GmbH accepts no liability for any decisions or outcomes based on this information.