



Leather Conditioner

Conditioners are important for maintaining leather goods. These compounds soften the material to prevent cracking, diminish moisture loss that leads to drying, smooth out small scratches, clean and protect the surface, and revitalize the leather's luster. However, most leather conditioners on the market today include petroleum. Depending on the grade, crude-oil-based ingredients can dry out the leather, and petroleum of any quality has a negative environmental impact. Airable Research Lab has formulated a soy-based leather conditioner that can extend the life of leather products. This eco-friendly treatment is as effective as its petroleum-based competitors.

THE TECHNOLOGY

This formulation is a water-based emulsion with humectant to moisturize and preserve. Soybean oil naturally restores luster and seals the leather. Silicone oil provides a long-lasting, water-repellant finish to protect from wetting and staining. The result is an easy-to-apply solution that nourishes the leather and has a non-slippery feel.

The Airable team tested the product on several types of leather, including a car seat, antique coat, and baseball glove. Researchers treated the material with the soy-based product and two commercial products, as well as leaving a segment untreated as a control. Researchers then measured and compared various properties (e.g., contact angle and gloss). Results indicate that the soy-based product performs as well as the commercial products, providing equal protection, no significant impact on appearance, and no greasy residue that can collect dust.

PROPERTIES

- Appearance: White (does not affect leather color)
- Viscosity: 13,200 mPa.s (creamy but not thick)
- Application: Spray (easy to apply)
- Odor: None



A baseball glove, before (left) and after (right) treatment with the Airable leather conditioner. The "after" glove has an initial sheen that recedes over time.

APPLICATIONS

The soy-based conditioner has broad applicability for both industrial and domestic uses:

- Automotive (car upholstery)
- Home furniture (couches, chairs)
- Apparel (coats, sneakers, belts)
- Recreational (baseball gloves, saddles)

