

# A Detailed Overview of Durosoft PG10-O

Durosoft PG10-O is a versatile, dual-functioned natural emulsifier and emollient for water-based formulations. Palm-free and PEG-free, it enhances active delivery and provides a smooth, moisturising finish, making it a perfect choice for brands focused on natural ingredients and sustainability.

Durosoft PG10-O is a versatile, naturally derived, and eco-friendly emulsifier designed for use in personal care formulations. Derived from sunflower oil, this non-ionic surfactant offers excellent emulsion stability, making it suitable for creating a wide range of oil-in-water emulsions. Its properties allow it to blend seamlessly into products such as balms, serums and water-based lotions, ensuring an appealing texture and consistent performance.

Sustainably sourced, Durosoft PG10-O supports green chemistry principles, helping manufacturers reduce their environmental impact without compromising on quality. Its versatility makes it a popular choice in natural and organic product formulations, where consumers increasingly demand biodegradable, skin-friendly ingredients. Additionally, Durosoft PG10-O works well across a broad pH range, giving formulators flexibility to innovate without the concern of destabilising the emulsions.

Because it's mild on the skin and highly effective even in low concentrations, Durosoft PG10-O is well-suited for sensitive skin products. The ingredient not only meets functional requirements but aligns with growing consumer trends toward environmentally responsible beauty and personal care products.



- » INCI: Polyglyceryl-10 Oleate
- » Appearance: Amber syrup
- » HLB: 8-10
- » Average molecular weight: 822.72 gmol<sup>-1</sup>
- » Usage Level: Emulsifier/Emollient 1-10%
- » Inter-facial Tension: <1 mN/m
- » Non-ionic O/W emulsifier for water-based products
- » Emollient to improve skin feel and slip
- » Safe for use in oral care products (3% inclusion)
- » Dermatologically tested

# The Benefits of Formulating With Durosoft PG10-O

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## Hydrophilic

Due to its hydrophilic nature, Durosoft PG10-O easily integrates into the water phase of formulations. This characteristic ensures that it blends seamlessly with water-based components, enhancing the overall stability and consistency of the product. By being part of the water phase, Durosoft PG10-O aids in creating formulations that are smooth, effective, and visually appealing.

## Hydrophilic Surfactant Head

Durosoft PG10-O features a hydrophilic surfactant head, contributing to its moisturising and mild properties. This structure ensures that products formulated with Durosoft PG10-O are gentle on the skin, making them suitable for sensitive skin types. The moisturising properties provide long-lasting hydration, enhancing personal care products' overall effectiveness and appeal.

## Made from Sunflower Oil

Durosoft PG10-O is derived from sunflower oil, known for its anti-oxidant properties and long-lasting moisture

retention. This natural oil helps maintain the skin's moisture balance, protecting against oxidative stress and preventing dryness. Additionally, sunflower oil has anti-inflammatory properties making it an effective ingredient for treating dryness and promoting healthy, hydrated skin.

## Low Surface Tension

One of Durosoft PG10-O's stand out benefits is its low surface tension, which allows for better dispersion of active ingredients and improved spreadability. This means that products glide more easily over the skin, providing a more pleasant application experience and ensuring that active ingredients are evenly distributed, maximising their efficacy.

## Palm Free

In line with our commitment to sustainability and ethical sourcing, Durosoft PG10-O is palm free. This means it is free from ingredients derived from palm oil, a common but environmentally friendly contentious ingredient. Choosing Durosoft PG10-O allows formulators to create products

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that are both high performing and aligned with ethical and sustainable practices.

## Diverse Fatty Acid Content

The diverse fatty acid content in Durosoft PG10-O contributes to forming stable micro-structures within formulations. This diversity helps create robust and resilient formulations that maintain their structure and effectiveness under various conditions. Stable micro-structures are vital to ensuring the longevity and performance of the final product.

## Wetting Agent

One of Durosoft PG10-O's stand out benefits is its role as a wetting agent, significantly improving formulations' spreadability. This means that products glide more easily over the skin, providing a more pleasant application experience. Improved spreadability also ensures that active ingredients are evenly distributed, enhancing their effectiveness.

The combination of a hydrophilic polyglycerol backbone and lipophilic oil tail enhances the wetting of

hydrophobic surfaces, ensuring that water-based products can more easily coat or penetrate materials that would typically repel water.

## Decaglycerol

Durosoft PG10-O features a decaglycerol chain, which enhances its moisturising and mildness properties. This unique structure ensures that products formulated with Durosoft PG10-O are gentle on the skin, making them suitable for sensitive skin types. The moisturising properties provide long lasting hydration, contributing to personal care products' overall effectiveness and appeal.