

Esaflo[®] PFT

Transparent, Water-Smart & Sustainable Guar Derivative

ESAFLO[®] PFT is a sustainable derivative of natural guar gum specifically developed for transparent formulations. This product is manufactured through ESAFLOR[®] ZERO-X technology, a patented water-smart process to obtain cosmetic grade guar derivatives.

INCI name: Hydroxypropyl Guar Hydroxypropyltrimonium Chloride

Summary of benefits

- Ideal for transparent formulations
- Light conditioning
- Enhanced wet combability
- No build-up and no heavy feel
- Smooth and soft on hair and skin
- Improved foam characteristics
- Natural origin, eco-friendly and sustainable

Applications

Guar derivatives manufactured with ESAFLOR[®] ZERO-X technology can be used in a wide variety of personal care applications. Thanks to their cationic character, they interact with keratin, providing hair and skin conditioning benefits.

- **HAIR CARE:** ESAFLOR[®] PFT is ideal for crystal-clear shampoos and 2-in-1 formulations, delivering light conditioning, enhanced combability and improved hair feel.
- **BATH & SHOWER:** ESAFLOR[®] PFT can be a valuable ingredient also for toiletries and skin care products, providing formulators with a proper tool to achieve smooth conditioning and excellent skin feel. In clear shower gels, liquid soaps and body washes, it ensures skin-conditioning performances, leaving the skin silky and soft. The addition of ESAFLOR[®] PFT in skin cleansing formulations can also help in reducing the negative effects of harsh soaps and surfactants.

Formulation tips

ESAFLO[®] PFT is water-dispersible. Add ESAFLOR[®] PFT to well-agitated water at room temperature and mix until dispersed. Viscosity develops when pH is adjusted to ~5.5-6 or less. Continue stirring for 15-20 minutes to ensure complete hydration of the polymer, then add the remaining ingredients. To avoid any possible incompatibility between cationic guar and the surfactant system, the following order of addition is recommended: add ESAFLOR[®] PFT into water; adjust pH to ~5.5; add amphoteric or non-ionic surfactants and, once homogeneous, add anionic surfactants; add the remaining ingredients of the formulation. ESAFLOR[®] PFT is not sensitive to electrolytes and it does not affect the appearance and rheology of the surfactant system.

Micellar shampoo - LAMCOS 158

| Phase | Ingredient name | % w/w |
|-------|------------------------------------|------------|
| 1 | Aqua (Water) | To 100 |
| 2 | Disodium EDTA | 0.05 |
| 3 | ESAFLOR® PFT | 0.5 |
| 4 | Citric Acid (20% solution) | To ~pH 5.5 |
| 5 | Cocamidopropyl Betaine (30% a.m.) | 9.3 |
| 6 | Ammonium Lauryl Sulfate (27% a.m.) | 45.3 |
| 7 | Decyl Glucoside (50% a.m.) | 3.0 |
| 8 | Panthenol | 2.0 |
| 9 | Sodium Benzoate | 0.3 |
| 10 | Parfum (Fragrance) | 0.3 |
| 11 | Sodium Chloride | Q.S. |
| 12 | Citric Acid (20% solution) | To ~pH 5.0 |

Manufacturing procedure:

Add A2 add A3 into water under vigorous stirring at room temperature and mix until dispersed. Adjust pH to ~5.5, then stir for ~20 min. to ensure the complete hydration of the polymer. Add remaining ingredients in given order, while stirring. After each addition, stir until homogeneous. Adjust pH to 5.0 with a citric acid solution.

General characteristics:

Appearance: thick clear detergent
pH: ~5.0
Viscosity (Brookfield RVT, 20 rpm, 25 °C): ~3500 mPa*s

Soothing shower gel - LAMCOS 159

| Phase | Ingredient name | % w/w |
|---------|------------------------------------|------------|
| PHASE A | | |
| 1 | Aqua (Water) | To 100 |
| 2 | Glycerin | 3.0 |
| 3 | Disodium EDTA | 0.05 |
| 4 | VISCOLAM® CL5 | 3.0 |
| 5 | Ammonium Lauryl Sulfate (27% a.m.) | 33.3 |
| 6 | Decyl glucoside (50% a.m.) | 10.0 |
| PHASE B | | |
| 1 | Aqua (Water) | 20.0 |
| 2 | ESAFLOR® PFT | 0.2 |
| 3 | Citric Acid (20% solution) | To ~pH 5.5 |
| PHASE C | | |
| 1 | ALPICARE NS | 1.0 |
| 2 | Parfum (Fragrance) | 0.5 |
| Phase D | | |
| 1 | Sodium Benzoate | 0.4 |
| 2 | Citric Acid (20% solution) | To ~pH 5.0 |
| 3 | Jojoba Esters (beads) | 0.5 |

Manufacturing procedure:

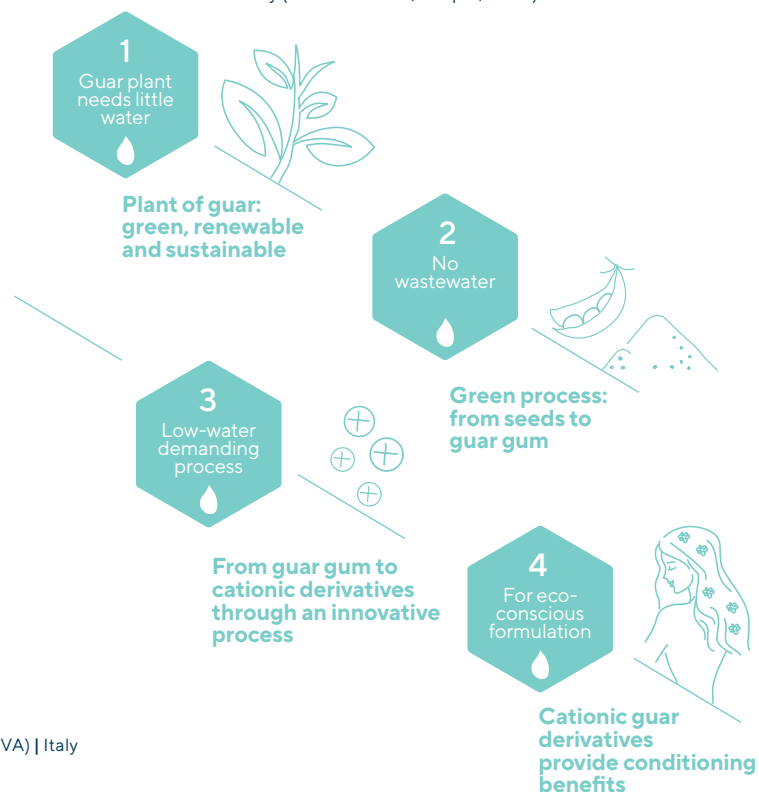
In the main vessel, under stirring, add ingredients A1-A6. Mix well after every addition, until a homogeneous mixture is obtained. In a support vessel, add B2 into water with vigorous stirring; adjust pH to ~5.5, then stir for ~20 min. to ensure the complete hydration of the polymer. Add phase B into phase A under stirring. In another support vessel, premix ingredients C1 and C2 until a clear solution is obtained. Add phase C into phase A under stirring. Add ingredient D1, then adjust pH to ~5.0, if necessary, and add D3 with gentle mixing.

General Characteristics:

Appearance: thick clear detergent
pH: ~5.0
Viscosity (Brookfield RVT, 20 rpm, 25 °C): ~6000 mPa*s

Sustainability: every drop counts

Water is a paramount element for the preservation of life. If not properly managed, shortages of this precious resource will characterize the near future. Fully engaged in minimizing industrial water consumption, Lamberti developed ESAFLOR® ZERO-X technology, a sustainable and water-saving process.



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