



# Formulation Guidelines

PROTECT YOUR HEALTH, CLEAN YOUR HANDS!

# Personal Care

Lamberti is a manufacturer of chemical specialties focused on customers' needs. Based on well established Technological Platforms (Natural and Synthetic Polymers and Oleochemicals) the Personal Care portfolio offers traditional products together with patented innovative raw materials for Skin Care, Hair Care, Oral Care, Make Up and Toiletries. All new developments supported by our R&D laboratories are committed towards sustainability and environmentally friendly chemistry, in compliance with regulatory requirements. An international presence based on local Lamberti facilities and a consolidated distributors' network, guarantee a prompt service on global basis. To better focus on formulation design Lamberti has integrated Kalichem who has a well recognized know-how in the world of cosmeceuticals and synergistic ingredients.



## Lamberti Technologies for Personal Care



### **OLEOCHEMICALS**

- Natural Surfactants
- Ethoxylated and Propoxylated Derivatives
- Esters



### **NATURAL POLYMERS**

- Guar Gum Derivatives
- Hydrocolloids
- Cellulosics



### **SYNTHETIC POLYMERS**

- Acrylic Polymers
- Water-based Polyurethanes

# Protect your health, clean your hands!

Washing your hands is easy, and it's one of the most effective ways to prevent the spread of germs:



- 1 Clean your hands regularly
- 2 Wash your hands with soap and water, and dry them thoroughly
- 3 Use a hand sanitizer that contains at least 60% alcohol if you don't have immediate access to soap and water
- 4 Restore your hands, apply a repair moisturizer cream every time you feel skin dryness.





**ALPICARE OC** is vegetable-derived soap obtained from olive oil fatty acids. Potassium Cocoate and Potassium Olivatate are the basis of traditional Marseille soap and act as mild anionic surfactant with good cleansing, foam control and stabilizing properties. ALPICARE OC also contains

vegetable glycerine, a natural moisturiser that helps to keep skin hydrated, soft and supple. It is a preservative-free clear liquid, easy to handle. ALPICARE OC is ideal for use in natural formulations such as liquid hand soaps, bath foams, shower products and shampoos bringing delicate and emollient qualities.



# All natural liquid soap

## LAMCOS 167

Phase	INCI name	Trade name	% w/w
1	Aqua (Water)		To 100
2	Tetrasodium EDTA		0.05
3	Glycerin		1.00
4	Sodium Chloride		2.00
5	Potassium Oliviate, Potassium Cocoate	<b>ALPICARE OC</b>	50.00
6	Parfum (fragrance)		q.s.
7	Citric Acid, 10% soln.		to pH 10.0



### Manufacturing procedure

Mix ingredients 1-5 in the given order; viscosity will develop after addition of A5 (ALPICARE OC). When homogeneous, add fragrance and correct pH to ~10.0 with citric acid.

### General characteristics

Appearance: yellowish viscous clear liquid

pH: ~10.0

Viscosity (Brookfield RVT, 25 °C, 20 rpm): ~1500 mPa\*s



**ESAFLOR® HDR** is a thickener best suited for hydro-alcoholic gel production. It is a non-ionic derivative of the natural gum obtained from the guar plant. ESAFLOR® HDR is extremely effective at low concentration even in presence of high alcohol content and cationic surfactants. Besides its unique rheology, it conveys excellent sensorial

properties: hands remain soft and moisturized after sanitizing, despite the presence of alcohol.

**ALPICARE NS** is a high performing non-ionic surfactant, highly effective at solubilizing fragrances, essential oil and lipophilic actives in water or in hydro-alcoholic solutions.

# Moisturizing hand sanitizer with 70% alcohol

## LAMCOS 168

Phase	INCI name	Trade name	% w/w
<b>Phase A</b>			
1	Aqua (Water)		To 100
2	Alcohol (Ethanol)		70.0
3	Hydroxypropyl Guar	ESAFLOR® HDR	1.5
4	Citric Acid (20% solution)		to pH 5.5
<b>Phase B</b>			
1	Glycerin		0.5
2	Propylene Glycol		0.5
<b>Phase C</b>			
1	Citrus Medica Limonum Oil		0.25
2	PEG-40 Hydrogenated Castor Oil, Tridiceth-9, Aqua	ALPICARE NS	0.5



### Manufacturing procedure

Add A1 and A2 into the main vessel. Slowly add A3 under vigorous stirring; stir until the powder is completely dispersed. Adjust pH to about 5.5 with A4. Keep stirring for at least 30', to ensure the complete hydration of the polymer. Viscosity will develop.

Add B1 and B2 to the main vessel, under stirring. In a support vessel, premix C1 and C2 until a clear solution is obtained. Add phase C to the main vessel, under stirring.

### General characteristics

Appearance: viscous hazy liquid

Odor: lemony

pH: ~5.5



**VISCOLAM® CK1** is a rheology modifier ideal for formulating alcohol-based hand sanitizer gels. It is a low-viscosity aqueous emulsion of acrylic copolymer, very easy-to-use. **VISCOLAM® CK1** allows formulators to achieve clear gels with elegant and smooth rheology. Additionally, **VISCOLAM® CK1** imparts

efficient stabilizing and thickening properties to the formulation.

Besides hand sanitizers, applications include liquid hand soap, face and body wash.

**ALPICARE NS** is an extremely effective fragrance solubiliser, based on non-ionic surfactants.



# Clear hand sanitizer with 70% alcohol

## LAMCOS 168A

Phase	INCI name	Trade name	% w/w
<b>Phase A</b>			
1	Aqua (Water)		To 100
2	Acrylates Copolymer	VISCOLAM® CK1	6.7
3	Alcohol (Ethanol)		70.0
4	Sodium Hydroxide (20% solution)		to pH 7.5
<b>Phase B</b>			
1	Glycerin		0.5
2	Propylene Glycol		0.5
<b>Phase C</b>			
1	Citrus Medica Limonum Oil		0.25
2	PEG-40 Hydrogenated Castor Oil, Tridiceth-9, Aqua	ALPICARE NS	0.5



### Manufacturing procedure

Dissolve A2 into water under gentle stirring. Carefully add A3 and adjust pH to 7.5 under gentle stirring, until viscosity develops and the formulation is uniform. Add B1 and B2 to the main vessel, under stirring. In a support vessel, premix C1 and C2 until a clear solution is obtained. Add phase C to the main vessel, under stirring.

### General characteristics

Appearance: viscous clear liquid  
Odor: lemony  
pH: ~7.5



**ESAFLOR® ZERO-X** is a crosslinker-free cationic derivative of natural guar gum, obtained through ESAFLOR® ZERO-X technology, a sustainable process patented by Lamberti. It provides dual benefits of conditioning and thickening. The cationic charge of ESAFLOR® ZERO-X interacts with keratin providing a conditioning effect on hair and skin.

**VISCOLAM® AT 100 P** is a thickener, emulsifier and stabilizer. This product is supplied as a ready-to-use liquid, pre-neutralized and it is effective over a wide pH range. VISCOLAM® AT 100 P enables formulators to create easily and quickly O/W lotions, creams and body butter bases as well as solvent based gels. Emulsions are not only rich with velvety texture and light but also easy to apply and easily absorbed by the skin.

# Repairing hand cream

## LAMCOS 169

Phase	INCI name	Trade name	% w/w
<b>Phase A</b>			
1	Aqua (Water)		To 100
2	Glycerin		3.00
3	Guar Hydroxypropyltrimonium Chloride	<b>ESAFLO<sup>®</sup> ZERO-X</b>	1.00
<b>Phase B</b>			
1	Simmondsia Chinensis Oil		5.00
2	Isononyl Isononanoate		6.00
3	Butirospermum Parkii Butter		5.00
4	Cetearyl Alcohol		3.00
5	Bis-PEG/PPG-16/16 Dimethicone, Caprylic/Capric Triglyceride		4.00
<b>Phase C</b>			
1	Sodium Polyacryloyldimethyl Taurate, Hydrogenated Polydecene, Trideceth-10	<b>VISCOLAM<sup>®</sup> AT 100 P</b>	2.00
<b>Phase D</b>			
1	Parfum (fragrance)		q.s.
2	Preservatives		q.s.
3	Citric Acid, 10% soln.		to pH 5.5

### Manufacturing procedure

In the main vessel, mix ingredients A1-2. Add A3 under vigorous stirring and keep stirring for ~20 mins, to ensure the complete hydration of the polymer. Heat the vessel to 55-60 °C. In a support vessel, mix ingredients B1-5 and heat to 55-60 °C, until completely melted and uniform. Add phase B into A and homogenize until smooth. After cooling below 35 °C add VISCOLAM<sup>®</sup> AT 100 P, and homogenize with a turbo-emulsifier until a smooth and uniform emulsion is obtained. Add ingredients D1-2 under gentle stirring and correct pH to 5.5 with citric acid.

### General characteristics

Appearance: white cream

pH: ~5.5

Viscosity (Brookfield RVT + Helipath, 25 °C, S92, 10 rpm, 30"): 20000-30000 mPa\*s

# Certifications and more

Lamberti SpA, its Business Units and the other companies within Lamberti Group operate according to the highest standards in terms of quality, safety and environmental protection. The company's commitment is recognized by several authorities and certifications.



**Work Safety Management System**  
Certification under OHSAS 18001 for Lamberti SpA.

**AEO**  
Lamberti SpA is certified as an Authorized Economic Operator, according to the European Community Customs Code.

**Quality Management System**  
Certification under ISO 9001:2008 for Lamberti SpA, Unichem SpA and the foreign affiliates in Brazil, Spain, China, India.

**EFfCI GMP**  
Certification under EFfCI GMP (Standard for Cosmetic Ingredients): Viguzzolo, Zanica.

**REACH**  
The Lamberti Group is committed to guarantee the registration and proper management of substances and products marketed, as requested by REACH Regulation (Reg.1907/2007/EEC).\*

**Responsible Care**  
Lamberti SpA is certified under this program.

**Environmental Management System**  
Certification under ISO 14001:2004 for Lamberti SpA and the foreign affiliate in Spain.

**RSPO**  
Certification under the RSPO Supply Chain Certification Standard, version June 2017: Viguzzolo.

\* For more details about Lamberti certifications see: [www.lamberti.com/about\\_us/certifications.cfm](http://www.lamberti.com/about_us/certifications.cfm)





**Lamberti in the World****EUROPE****Italy**

Gallarate  
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Commercial Offices)

Albizzate  
(Main production facilities,  
Technological  
research center)

Fiorano Modenese  
Nerviano  
Rezzato  
Trissino  
Viguzzolo  
Zanica

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Liergues

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**Poland**

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