



**Diamond**  
Diamond Overseas Trading Co

# LIQUID HAND WASH FORMULATIONS BY KAO



# Kao Corporation, S.A.

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**KCE REFERENCE: C-044**

## DERMATOLOGICAL LIQUID SOAP

### DESCRIPTION

- Dermatological liquid soap
- Process at room temperature
- Mild product for the skin
- Fungicide and bactericide effect on the skin
- Advised to be used in sport training centres and swimming pools

### COMPOSITION

COMPOSITION	%
EMAL <sup>□</sup> 270D <sup>(1)</sup>	12.7
BETADET <sup>□</sup> HR <sup>(2)</sup>	6.0
LEVENOL <sup>□</sup> H&B	1.8
TETRANYL <sup>□</sup> U	1.0
Triclosan	0.2
Opacifier	0.5
Preservative	q.s.
Perfume	q.s.
Citric Acid	q.s. (pH adjust= 5.5 – 6.5)
Sodium Chloride	q.s. (viscosity adjust)
Deionized Water	Up to 100%

(1) 12.7% of EMAL<sup>□</sup> 270D (SLES at 70% a.m.) can be substituted by 33% of EMAL<sup>□</sup> 227E (SLES at 27% a.m.).

(2) 6% of BETADET<sup>□</sup> HR (CAPB at 30% a.m.) can be substituted by 4.7% of BETADET<sup>□</sup> HR-50K (CAPB at 40% a.m.).

### TECHNICAL CHARACTERISTICS

		Kao Method
APPEARANCE (20°C) :	White Opaque Viscous Liquid	KCSA-258
VISCOSITY BROOKFIELD (20°C,cPs) :	5000 approx.	KCSA-227
pH (100%) :	5.5 - 6.5	KCSA-014
DRY MATTER (%) :	14.5 approx.	KCSA-092
STABILITY :	Correct	(1 month 40°C/RT/5°C)



KCE REFERENCE: C-044

## RECOMMENDED OPERATIVE METHOD

- Add to the 95% of the Deionized Water needed in the formula, the EMAL<sup>□</sup> 270D and the BETADET<sup>□</sup> HR. Stir until complete transparency after each addition.
- In another vessel mix up Triclosan with LEVENOL<sup>□</sup> H&B and heat till 55°C – 60°C. Blend until total solubilization and add this mixture to the previous one.
- Continue with the addition of TETRANYL<sup>□</sup> U.
- Add the preservative and the perfume. Stir until total solubilization of each one (perfume usually needs 15 minutes minimum to reach total solubility).
- Adjust pH with citric acid or lactic acid.
- In another vessel, prepare the Opacifier solution (0.5% in 5% of water), stir for 10 minutes and add to the formula.
- Adjust desired viscosity using different quantities of NaCl (it is advisable to add it diluted).

## COMMENTS

- After Opacifier addition, we recommend to avoid excessive stirring of the product in order to prevent particle size damage.
- In case of using EMAL<sup>□</sup> 270D, it's recommended to heat the initial water at 45 – 50°C to facilitate its incorporation.

## COMPONENTS

**BETADE<sup>□</sup> HR** (Cocamidopropyl Betaine, ≈ 35% dry matter): amphoteric character. Secondary surfactant. It decreases the irritation level of the anionic surfactants on the skin, improving level and quality of the foam. Additional thickening affect.

**EMAL<sup>□</sup> 227E** (Sodium Laureth Sulfate, ≈ 27% a.m.): anionic character. Primary surfactant, highly foaming. Good detergent properties.

**LEVENOL<sup>□</sup> H&B** (Glycereth-2 Cocoate, ≈ 100% a.m.): non-ionic character. Extra-mild surfactant, with emulsifying properties. Skin emollient and moisturizing agent .Foam booster and thickening agent. Ecological product. It doesn't need any risk or safety warnings on its label. In hair rinse application increases the conditioning effect of the cationic component, giving smoothness. % of use in Hair Rinse = between 0.1 - 2%

**TETRANYL<sup>□</sup> U** (Undecylenamidopropyltrimonium Methosulfate, ≈ 50% a.m.): cationic character. Fungicide and bactericide effect. Water soluble at room temperature. Compatible with other surfactants.

**Opacifier**: liquid polymeric dispersions (milky) which allow modifying the final formula, giving to it a white-milky appearance (not pearled). There are several brands in the market: Lytron 621 (WILLIAMS), ODP – 140, Antara 430 (GAF),...

**Triclosan**: Anti-microbiological active substance to improve the hygiene and the skin wash. Appearance: white powder.

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**KCE REFERENCE : D-176**

## DERMO WASHING UP LIQUID (25%)

### DESCRIPTION

- High performance product, mild to skin
- Product without ethanol
- Ecological and biodegradable product
- Designed with the ecological LEVENOL® chemistry

### COMPOSITION

	%
EMAL <sup>□</sup> 227 E <sup>(1)</sup>	55.6
OXIDET <sup>□</sup> DMCLD	13.3
EMANON <sup>□</sup> XLF	4.0
AMIDET <sup>□</sup> N	2.1
DANOX <sup>□</sup> PL-10	2.0
Citric Acid (50%)	0.7
Preservative	e.q.
Colorant	e.q.
Deionised Water	Up to 100%

(1) 55.6% of EMAL<sup>□</sup> 227E can be replaced by 53.6% of EMAL® 228HP or by 21.40% approx. of EMAL<sup>□</sup> 270D or EMAL<sup>□</sup> 270E

### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	Pearled viscous liquid	KCSA-258
ACTIVE MATTER (%) :	≈ 25	KCSA-092
VISCOSITY (cPs, 20°C) :	≈ 1600	KCSA-227
pH (as it is) :	7.0 - 7.5	KCSA-014

**KCE REFERENCE : D-176**

## RECOMMENDED OPERATIVE METHOD

- Add EMAL<sup>□</sup> 227E, OXIDE<sup>□</sup> DMCLD, EMANON<sup>□</sup> XLF and AMIDE<sup>□</sup> N and citric acid stirring until a complete homogeneous mixture is obtained.
- Continue with the addition of the rest of the water slowly stirring during all the dilution process.
- Add DANOX<sup>□</sup> PL-10 if pearled effect is desired and stir until homogenize all the mixture.
- Finally, unload the product.

## COMPONENTS

**EMAL<sup>□</sup> 227E** (Sodium Laureth Sulfate, ≈ 27% a.m.) : anionic character. Primary surfactant, highly foaming. Good detergent properties.

**EMANO<sup>□</sup> N XLF** (Glycereth-7 Caprylate/Caprata, ≈ 100% a.m.): non-ionic character. Optimized non-ionic surfactant for liquid hand dishwashing formulations, which provides foam in presence of dirt. Eco-toxicologically friendly. Acts as hydrotrope in concentrated formulations.

**OXIDE<sup>□</sup> T DMCLD** (Cocamine Oxide, ≈ 30% a.m.): non-ionic/cationic character (depending on the pH). Stable at acidic and alkaline pH. Foaming and detergent. Thickening and fragrance solubilizing agent in sodium hypochlorite solutions.

**AMIDE<sup>□</sup> T N** (PEG-4 Rapeseedamide, ≈ 95% a.m.): non-ionic character. It acts as a viscosity modifier allowing to reduce the quantity of added NaCl. Nitrosamines free thickener. It improves the quality of the foam and avoids the excessive degreasing effect and the irritation of the anionic surfactants on the skin. Multi-functional surfactant (*previous name: AMINOL N*)

**DANOX<sup>□</sup> PL-10** (pearling concentrate, ≈ 52% dry matter) : anionic and non-ionic character. Nitroso-amines free product (its composition doesn't contain any Nitrogen derivative). It allows modifying the final appearance of the formula, providing it with a beautiful pearled appearance. No heating is needed. Ecological product. Common use percentage: 3 - 10 %.

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**KCE REFERENCE : D-167**

## DESINFECTING WASHING UP LIQUID

### DESCRIPTION

- Very well balanced formulation to obtain an outstanding performance
- Disinfecting effect
- Very good foaming product thanks to EMANON<sup>□</sup> XLF

### COMPOSITION

	%
EMAL <sup>□</sup> 270 D	21.4
OXIDET <sup>□</sup> L-75C	22.7
EMANON <sup>□</sup> XLF	2.5
MELIOSOL CU-40	3.0
TETRANYL <sup>□</sup> BC-80	1.3
Ethanol (96%)	2.0
Citric Acid (50%)	0.5
Preservative	e.q.
Colorant	e.q.
Deionised Water	Up to 100%

(1) 21.4% of EMAL<sup>□</sup> 270D can be replaced by 53.5% of EMAL<sup>®</sup> 228HP or by 55.5% approx. of EMAL<sup>□</sup> 227E.

### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	Transparent viscous liquid	KCSA-258
DRY MATTER (%) :	≈ 26	KCSA-092
VISCOSITY (cPs, 20°C) :	≈ 1300	KCSA-227
pH (as it is) :	≈ 7	KCSA-014

### RECOMMENDED OPERATIVE METHOD

**KCE REFERENCE: D-167**

- Weight ALL components except TETRANYL® BC-80 and stir (around 200-300 rpm).
- Add TETRANYL® BC-80 (also TETRANYL® BC-50 can be used, adjusting the %product required). TETRANYL® BC-80 has 80% dry matter and BC-50 has 50% dry matter.
- Adjust final pH.
- Adjust final water content to 100%.

**COMPONENTS**

**EMAL** □ **270D** (Sodium Laureth Sulfate, ≈ 70% a.m.): anionic character. Primary surfactant, highly foaming. Good detergent properties.

**EMANO** □ **N XLF** (Glycereth-7 Caprylate/Caprata, ≈ 100% a.m.): non-ionic character. Optimized non-ionic surfactant for liquid hand dishwashing formulations, which provides foam in presence of dirt. Eco-toxicologically friendly. Acts as hydrotrope in concentrated formulations.

**MELIOSO** □ **L CU-40** (Sodium Cumenesulfonate, ≈ 40% a.m.): anionic character. Hydrotrope component. It improves the solubility and the cloud point of the formula. In this kind of formula containing phosphoric or citric acids, MELIOSOL □ CU-40 acts as a viscosity modifier.

**OXIDE** □ **T L-75 C** (Cocamidopropylamine Oxide, ≈ 33% a.m.): cationic/non-ionic character (depending on the pH).

Secondary surfactant. It increases the foam volume and improves the quality of it. It also acts as a thickener. Its addition reduces the surface tension and therefore improves the detergency of the formula.

**TETRANYL** □ **BC-80** (Benzalkonium Chloride, ≈ 80% a.m.): cationic character. Disinfecting effect.

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**KCE REFERENCE: C-081**

## HAND LIQUID SOAP

RICH & SMOOTH

### DESCRIPTION

- Very mild formulation
- Highly foaming

### COMPOSITION

COMPOSITION	%
EMAL <sup>®</sup> 270D <sup>(1)</sup>	12.0
BETADET <sup>®</sup> SHR	2.9
LEVENOL <sup>®</sup> H&B	2.0
DANOX <sup>®</sup> PL-10	3.5
Dye(s)	q.s.
Preservative	q.s.
Fragrance	q.s.
Sodium Chloride	q.s.
NaOH (10% solution)	q.s. (pH adjust= 6.0 – 6.5)
Deionized Water	Up to 100%

(1) 12% of EMAL<sup>®</sup> 270D (SLES at 70% a.m.) can be substituted by 31.7% of EMAL<sup>®</sup> 227E (SLES at 27% a.m.)

### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	White Pearled Liquid	KCSA-258
VISCOSITY BROOKFIELD (20°C, cPs) :	5900 approx.	KCSA-227
pH (100%) :	6.0 - 6.5	KCSA-014
DRY MATTER (%) :	14 approx.	KCSA-092
STABILITY :	Correct	(1 month 40°C/RT/5°C)





**KCE REFERENCE: C-081**

## RECOMMENDED OPERATIVE METHOD

- Disperse EMAL<sup>®</sup> 270D into water at 45-50°C to facilitate its incorporation.
- Add BETADET<sup>®</sup> SHR and LEVENOL<sup>®</sup> H&B in this order until clear.
- Add the pearlinging agent DANOX<sup>®</sup> PL-10 until fully dispersed.
- Add the other additives: preservative (soluble), fragrance (15 minutes of agitation are usually needed to solubilize it), dyes (diluted in water) and other (extracts, etc.).
- Adjust pH (it is recommended to use citric or lactic acids to decrease it, diluted Sodium Hydroxide if an increase is necessary).
- Adjust the final viscosity using Sodium Chloride until desired level.

## COMMENTS

- In case of using EMAL<sup>®</sup> 227E, there is no need to heat the initial water at 45-50°C.

## COMPONENTS

**BETADET<sup>®</sup> SHR** (Cocamidopropyl Hydroxysultaine, ≈ 44% a.m.): amphoteric character. Very mild co-surfactant. It decreases the irritation level of anionic surfactants, improving the quality of the foam and performing also as a thickener.

**DANOX<sup>®</sup> PL-10** (pearling concentrate, ≈ 52% dry matter) : anionic and non-ionic character. Nitroso-amines free product (its composition doesn't contain any Nitrogen derivative). It allows modifying the final appearance of the formula, providing it with a beautiful pearled appearance. No heating is needed. Ecological product. Common use percentage: 3 - 10 %.

**EMAL<sup>®</sup> 270D** (Sodium Laureth Sulfate, ≈ 70% a.m.) : anionic character. Primary surfactant, highly foaming. Good detergent properties.

**LEVENOL<sup>®</sup> H&B** (Glycereth-2 Cocoate, ≈ 100% a.m.): non-ionic character. Extra-mild surfactant, with emulsifying properties. Skin emollient and moisturizing agent .Foam booster and thickening agent. Ecological product. It doesn't need any risk or safety warnings on its label. In hair rinse application increases the conditioning effect of the cationic component, giving smoothness. % of use in Hair Rinse = between 0.1 - 2%

**Additives:** other conditioning agents like proteins or silicones or derivatives, cationic polymers, etc.

**Fragrance :** in accordance with the idea of a conditioning product. It can affect to the final viscosity of the formula. Add it always at low temperature. (<35 - 40°C). Use % = between 0.1 - 0.5%.

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**KCE REFERENCE: C-032**

## HAND LIQUID SOAP

### DESCRIPTION

- Hand washing liquid soap
- Process at room temperature
- Mild product for the skin

### COMPOSITION

	%
EMAL <sup>□</sup> 227E	25.0
BETADET <sup>□</sup> S-20	3.0
LEVENOL <sup>□</sup> H&B	2.0
DANOX <sup>□</sup> P-15	3.0
Preservative	q.s.
Fragrance	q.s.
pH control	q.s. (pH adjust = 6 approx.)
Sodium Chloride	q.s. (adjust viscosity, 1.6% approx.)
Deionized Water	Up to 100%

(1) 25% of EMAL<sup>□</sup> 227E (SLES at 27% a.m.) can be substituted by 9.5% of EMAL<sup>□</sup> 270D (SLES at 70% a.m.).

### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	Pearled Viscous Liquid	KCSA-258
VISCOSITY BROOKFIELD (20°C,cPs) :	6700 approx.	KCSA-227
pH (as it is) :	6.0 - 6.5	KCSA-014
DRY MATTER (%) :	13 approx.	KCSA-092
STABILITY :	Correct	(1 month 40°C/RT/5°C)



KCE REFERENCE: C-032

## RECOMMENDED OPERATIVE METHOD

- Add EMAL<sup>□</sup> 227E to the Deionized Water and then BETADET<sup>□</sup> S-20. Stir until complete transparency after each addition.
- Continue adding LEVENOL<sup>□</sup> H&B and keep stirring after its addition.
- Add the Preservative (ex. Formaldehyde, 0.15%) and the perfume. Stir until total solubilization of each one, (perfume usually needs 15 minutes minimum to reach total solubility).
- Add DANOX<sup>□</sup> P-15 and stir till complete homogeneity.
- Adjust pH with citric acid or lactic acid.
- Add the necessary NaCl quantity to achieve the desired viscosity (it is advisable to add it diluted).

## COMPONENTS

**BETADE<sub>T</sub><sup>□</sup> S-20** (Lauryl Hydroxysultaine, ≈ 38% a.m.): amphoteric character. Very mild co-surfactant. It decreases the irritation level of anionic surfactants, improving the quality of the foam and performing also as a thickener. It improves the stability of the formula at extreme pH's and low temperature.

**DANOX<sup>□</sup> P-15** (pearling concentrate, ≈ 40% dry matter): anionic and non-ionic character. It modifies the final appearance of the formula, giving a beautiful pearled appearance. Use %: 3 - 10 %.

**EMAL<sup>□</sup> 227E** (Sodium Laureth Sulfate, ≈ 27% a.m.): anionic character. Primary surfactant, highly foaming. Good detergent properties.

**LEVENOL<sup>□</sup> H&B** (Glycereth-2 Cocoate, ≈ 100% a.m.): non-ionic character. Extra-mild surfactant, with emulsifying properties. Skin emollient and moisturizing agent. Foam booster and thickening agent. Ecological product. It doesn't need any risk or safety warnings on its label. In hair rinse application increases the conditioning effect of the cationic component, giving smoothness. % of use in Hair Rinse = between 0.1 - 2%

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**KCE REFERENCE : D-165**

## PREMIUM WASHING UP LIQUID

### DESCRIPTION

- It is a highly concentrated formulation designed to reach the maximum possible performance in terms of foam volume as well as in number of cleaned dishes.
- The quantity of solvent necessary to formulate such a high active matter product is significantly reduced thanks to EMANON<sup>®</sup> XLF.

### COMPOSITION

%

EMAL <sup>□</sup> 270 D	40.2
OXIDET <sup>□</sup> DM-20	18.6
EMANON <sup>□</sup> XLF	3.8
Ethanol	5.2
Propyleneglycol	2.0
NaCl	1.6 (approx.)
Citric acid (50%)	0.5 (pH ≈ 7)
Preservative	q.s.
Colorant	q.s.
Deionised Water	Up to 100%

### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	Transparent viscous liquid	KCSA-258
DRY MATTER (%) :	≈ 37.5	KCSA-092
VISCOSITY (cPs, 20°C) :	≈ 1000	KCSA-227
pH (as it is) :	≈ 7.0	KCSA-014



**KCE REFERENCE : D-165**

## RECOMMENDED OPERATIVE METHOD

- Add EMAL<sup>□</sup> 270D, EMANON<sup>□</sup> XLF, OXIDET<sup>□</sup> DM-20, citric acid, propylenglycol, ethanol and NaCl and approximately the 90% of the total water. Stir at the end of the additions until complete homogenization.
- Once the mixture is homogenized, continue with the addition of the rest of additives (preservative, fragrance and dyes).
- Adjust pH (if needed) and remaining water till 100%.
- Finally, unload the product.

## COMPONENTS

**EMAL<sup>□</sup> 270D** (Sodium Laureth Sulfate, ≈ 70% a.m.) : anionic character. Primary surfactant, highly foaming. Good detergent properties.

**EMANO<sup>□</sup><sub>N</sub> XLF** (Glycereth-7 Caprylate/Caprata, ≈ 100% a.m.): non-ionic character. Optimized non-ionic surfactant for liquid hand dishwashing formulations, which provides foam in presence of dirt. Eco-toxicologically friendly. Acts as hydrotrope in concentrated formulations.

**OXIDE<sup>□</sup><sub>T</sub> DM-20** (Lauramine Oxide, ≈ 30% a.m.): non-ionic/cationic character (depending on the pH). Stable at acidic and alkaline pH. Foaming and detergent.

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**KCE REFERENCE : D-174**

## SOLVENT FREE WASHING UP LIQUID (30%)

### DESCRIPTION

- Solvent free hand dishwashing formulation
- It has a unique ternary surfactant system designed to obtain the maximum possible effectiveness
- The solvent free concept is the maximum expression of sustainable formulation

### COMPOSITION

	%
EMAL <sup>®</sup> 270 D	25.70
BETADET <sup>®</sup> HR	27.00
MELIOSOL <sup>®</sup> CU-40	7.50
EMANON <sup>®</sup> XLF	3.00
Citric Acid (50%)	e.q.
Preservative	e.q.
Colorant	e.q.
Deionised Water	Up to 100%

### TECHNICAL CHARACTERISTICS

		Kao Method
APPEARANCE (20°C) :	Transparent viscous liquid	KCSA-258
ACTIVE MATTER (%) :	≈ 30	KCSA-092
VISCOSITY (cPs, 20°C) :	≈ 900	KCSA-227
pH (as it is) :	7.0-7.5	KCSA-014

**KCE REFERENCE : D-174**

## RECOMMENDED OPERATIVE METHOD

- Add EMAL<sup>®</sup> 270D, EMANON<sup>®</sup> XLF, MELIOSOL<sup>®</sup> CU-40 and the 90% of the water without stirring. Homogenize all these components together.
- Continue with the addition of BETADET<sup>®</sup> HR and stir until homogenization
- Continue with the addition of enough quantity of Citric Acid (50%) in order to neutralize.
- Add the rest of the water.
- Finally, unload the product.

## COMPONENTS

**EMAL<sup>®</sup> 270D** (sodium laureth sulfate, ≈ 70% a.m.) : anionic character. Primary surfactant, highly foaming. Good detergent properties.

**BETADET<sup>®</sup> HR** (cocamidopropyl betaine, ≈ 30% a.m.): amphoteric character. Foaming and detergent surfactant. It decreases the irritation of anionic surfactants on the skin. Additional thickening effect.

**MELIOSOL<sup>®</sup> CU-40** (sodium cumenesulfonate, ≈ 40% a.m.): anionic character. Hydrotrope component. It improves the solubility and the cloud point of the formula.

**EMANON<sup>®</sup> XLF** (glycereth-7 caprylate/caprato, ≈ 100% a.m.): non-ionic character. Optimized non-ionic surfactant for liquid hand dishwashing formulations, which provides foam in presence of dirt. Eco-toxicologically friendly. Acts as hydrotrope in concentrated formulations.

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**KCE REFERENCE : D-168**

## WASHING-UP LIQUID 24 % active matter

### DESCRIPTION

- Water-clear, hand washing-up liquid
- High performance product
- Ecological and biodegradable product

### COMPOSITION

	%
EMAL 270 D	20.6
OXIDET® L-75 C	21.8
LEVENOL® F-200	2.4
Ethanol	2.6
Citric Acid (50%)	0.5
Fragrance	e.q
Dye(s)	e.q
Preservative	e.q
Deionized Water	Up to 100%

### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	Clear Liquid	KCSA-258
pH (as it is) .	≈ 7.0	KCSA-014
VISCOSITY (20°C,cPs) :	~800	KCSA-227
DRY MATTER (%) :	≈ 24	KCSA-092
CLOUD POINT (°C)	≈ -6	KCSA-246
IRRITATION (1% active) :	Non Irritant	ZEIN TEST
STABILITY :	Correct	1 month at 40°C/RT/5°C





**KCE REFERENCE : D-168**

## RECOMMENDED OPERATIVE METHOD

- Add EMAL<sup>®</sup> 270D, LEVENOL<sup>®</sup> F-200, OXIDET<sup>®</sup> L-75C, ethanol, citric acid and approximately the 90% of the total water. Stir at the end of additions until homogenization.
- Once the mixture is homogenized, continuing with the addition of the rest of additives and water.
- Finally, unload the product.

## COMPONENTS

**EMAL<sup>®</sup> 270 D** (Sodium Lauryl Ether Sulphate, 70% a.m.): anionic character. Primary surfactant, highly foaming and detergent.

**LEVENOL<sup>®</sup> F-200** (Glycereth-6 Cocoate, ≈ 100% a.m.): non-ionic character. Mild surfactant that decreases the irritation level of anionic surfactants, increasing performance and dispersion of the dirt. Medium foaming and good hydrotropic properties. Eco-toxicologically friendly. It doesn't need any risk sentences or warnings on its label.

**OXIDET<sup>®</sup> L-75 C** (Cocamidopropylamine Oxide, 33% a.m.): cationic/non-ionic character (depending on the pH). Secondary surfactant, it increases foam volume and improves the quality of it. It also acts as a thickener.

The information and recommendations in this publication are to the best of our knowledge reliable. However, nothing herein is to be construed as a warranty or representation. Users should make their own tests to determine the applicability of such information or the suitability of any products for their own particular purpose.  
Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is assumed.



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**KCE REFERENCE : D-036**

## WASHING-UP LIQUID

### First Price

#### DESCRIPTION

- First price hand washing-up liquid
- Easy process at room temperature
- Low concentration

#### COMPOSITION

%

DANOX <sup>®</sup> LVC-200	15.0
NaCl	e.q. (viscosity adjust, 1.5% approx.)
Citric Acid (50%) or NaOH (10%)	e.q (pH adjustment at 6.0 - 7.0)
Fragrance	e.q.
Preservative	e.q.
Dye(s)	e.q.
Deionized Water	Up to 100%

#### TECHNICAL CHARACTERISTICS

		<b>Kao Method</b>
APPEARANCE (20°C) :	Transparent Viscous Liquid	KCSA-258
COLOUR :	Usually green or yellow	KCSA-258
ODOUR :	Usually pine or citric	KCSA-267
pH (as it is) :	6.0 – 7.0	KCSA-014
VISCOSITY (cPs, 20°C) :	≈ 600	KCSA-227
DRY MATTER (%) :	≈ 10	KCSA-092
STABILITY :	Correct	1month at 40°C/RT/5°C

**KCE REFERENCE : D-036**

## RECOMMENDED OPERATIVE METHOD

- Add DANOX® LVC-200 to the deionized water.
- Stir during 15 min approx.
- Continue adding fragrance, and stir till complete transparency.
- Adjust pH using diluted sodium hydroxide (or diluted citric acid if needed to decrease pH).
- Adjust viscosity with NaCl.
- Adjust weight (100%) with water and homogenise.
- Product can be poured away.

## COMMENTS

- During the process it is recommended to avoid air incorporation.
- Fragrances usually need between 15 and 20 minutes to be solubilized.
- Before unloading, it is important to check final specifications in a representative sample.

## COMPONENTS

**DANOX® LVC-200** (concentrated mixture of surfactants, ≈ 65% a.m.): anionic and non-ionic character. Concentrated detergent, with degreasing and emulsifying properties, specially designed to prepare washing-up liquids for hand wash by dilution in water. It can be also applied for preparing hard surface cleaners.

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**KCE REFERENCE : D-064**

## WASHING-UP LIQUID

### First Price

#### DESCRIPTION

- First price hand washing-up liquid
- Easy process at room temperature
- Low concentration

#### COMPOSITION

%

DANOX <sup>®</sup> LVC-300	15.0
NaCl	e.q. (viscosity adjust , ≈ 1.5%)
Citric Acid 50% or NaOH 10%	e.q (pH adjustment at 6.0 - 7.0)
Fragrance	e.q.
Preservative	e.q.
Dye(s)	e.q.
Deionized Water	Up to 100%

#### TECHNICAL CHARACTERISTICS

##### Kao Method

APPEARANCE (20°C) :	Transparent Viscous Liquid	KCSA-258
pH (as it is):	8.0 – 8.5	KCSA-014
VISCOSITY (cPs, 20°C) :	≈ 700	KCSA-227
DRY MATTER (%) :	≈ 10	KCSA-092
STABILITY TEST :	Correct	1 month 40°C/RT/5°C



**KCE REFERENCE : D-064**

## RECOMMENDED OPERATIVE METHOD

- Add DANOX<sup>®</sup> LVC-300 to the deionized water
- Continue adding fragrance, and stir till complete transparency.
- Adjust pH using diluted sodium hydroxide
- Adjust weight (100%) with water and homogenize. Product can be poured away.

## COMPONENTS

**DANOX<sup>®</sup> LVC-300** (concentrated blend, ≈ 60% a.m.) : anionic character. Primary surfactant, highly foaming and detergent.

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