

D-199

# HEAVY-DUTY LIQUID DETERGENT

## COLOR CARE

### GUIDELINE FORMULARY

#### DESCRIPTION

Liquid detergent for laundry machines  
Special product for color protection  
Recommended dosage: 100mL product/wash

#### COMPOSITION

	%
<b>SULFONAX®</b>	<b>10.4</b>
<b>EMAL® 270D</b> <sup>(1)</sup>	<b>4.3</b>
<b>LEVENOL® F-200</b>	<b>3.8</b>
Coconut Fatty Acid	1.6
NaOH (50%)	3.0
Sodium Citrate	2.0
Enzymes	q.s.
Vinylpyrrolidone/Vinylimidazole Copolymer <sup>(2)</sup>	1.7
Optical brighteners	q.s.
Chelating agents	q.s.
Opacifier	q.s.
<b>KAO Fragrance</b>	<b>q.s.</b>
Dye(s)	q.s.
Sodium Chloride	q.s.
Preservative	q.s.
Deionized Water	Up to 100

(1) 4.3% of EMAL® 270D (SLES at 70% a.m) can be replaced by 11.1% of EMAL® 227E (SLES at 27% a.m).

(2) Vinylpyrrolidone/Vinylimidazole Copolymer supplied by BASF.

#### TECHNICAL CHARACTERISTICS

#### Kao Method

APPEARANCE (20°C):	Transparent liquid	KCSA-258
pH (as it is):	8.0 - 8.5	KCSA-014
VISCOSITY BROOKFIELD (20°C,cP):	300 - 400	KCSA-227
SURFACTANT ACTIVE CONTENT (%):	Approx. 17	KCSA-246
STABILITY TEST:	Correct	(1 month 40°C/RT/5°C)

## RECOMMENDED OPERATIVE METHOD

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Charge water at room temperature.

Add NaOH (50% solution) and afterwards add SULFONAX® and Coconut Fatty Acid (previously melted), homogenizing the blend after the addition of each component.

Blend may be warmed up to facilitate the solubilization of fatty acid.

Continue with the addition of Sodium Citrate.

Check pH and adjust it between 7.0 - 8.0 with NaOH (50%), if necessary.

Continue with the addition of LEVENOL® F-200 and EMAL® 270D, homogenizing the blend after the addition of each component.

Add the enzymes following supplier recommendations.

Continue with the addition of the other additives: chelating agents, preservative, opacifier, optical brighteners, perfume, keeping in mind supplier recommendations.

Final pH adjustment (8.0 - 8.5) with NaOH.

Viscosity adjustment adding Sodium Chloride.

Adjust weight with Deionized water to 100%.

Unload final product.

## COMMENTS

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Ensure that pH is between 7.0 and 8.0 before LEVENOL® F-200 addition.

In case of using enzymes, follow supplier recommendations regarding dosage, enzyme stabilizers and formulation procedure. Avoid the usage of lipases.

## COMPONENTS

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**SULFONAX®** (Dodecyl Benzene Sulfonic acid, » 94% a.m.): anionic character. Primary surfactant, highly foaming. Good detergent properties.

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

**LEVENOL® F-200** (Glycereth-6 Cocoate, ≈ 100% a.m.): non-ionic character. Mild surfactant with detergent power performance similar or even better than standard non-ionic surfactants. Medium foaming and good hydrotropic & wetting properties that allow the reduction of solvents. Eco-toxicologically friendly. It doesn't need any risk sentences or warnings on its label.

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.

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