Alcance

Creating, Developing & Delivering Solutions

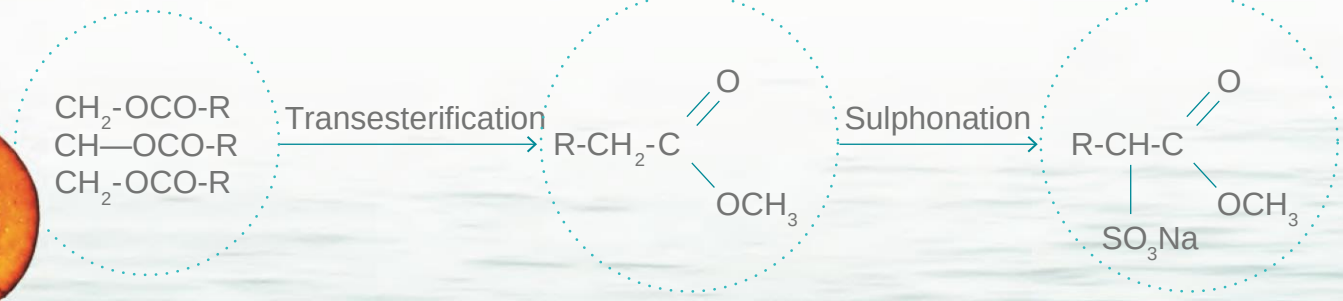
KLK OLEO

PALMFONATE

Methyl Ester Sulphonate

A Living Innovation

“**Integration** powers
Synergy via
Innovation and **Growth**”



Palm Oil **Methyl Ester** **Methyl Ester Sulphonate (MES)**

PALMFONATE

Methyl Ester Sulphonate

A LIVING INNOVATION

- **Excellent Detergency**
- **Mild to Skin**
- **Gentle to Environment**
- **Renewable Resource**

Excellent detergency even in the toughest of conditions

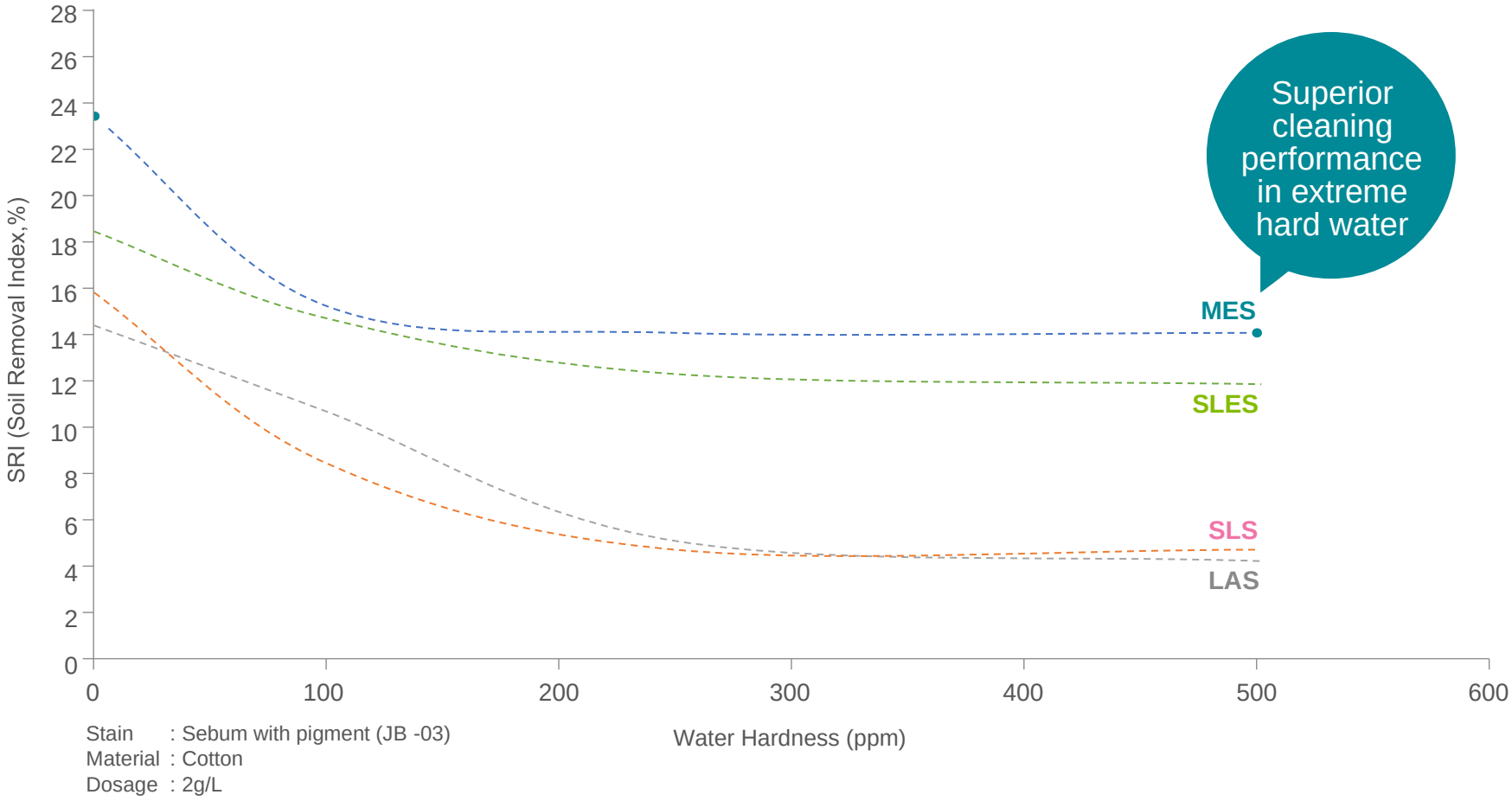
PALMFONATE

Excellent Detergency

SUPERIOR HARD WATER TOLERANCE

MES vs Other Anionic Surfactants

Comparison



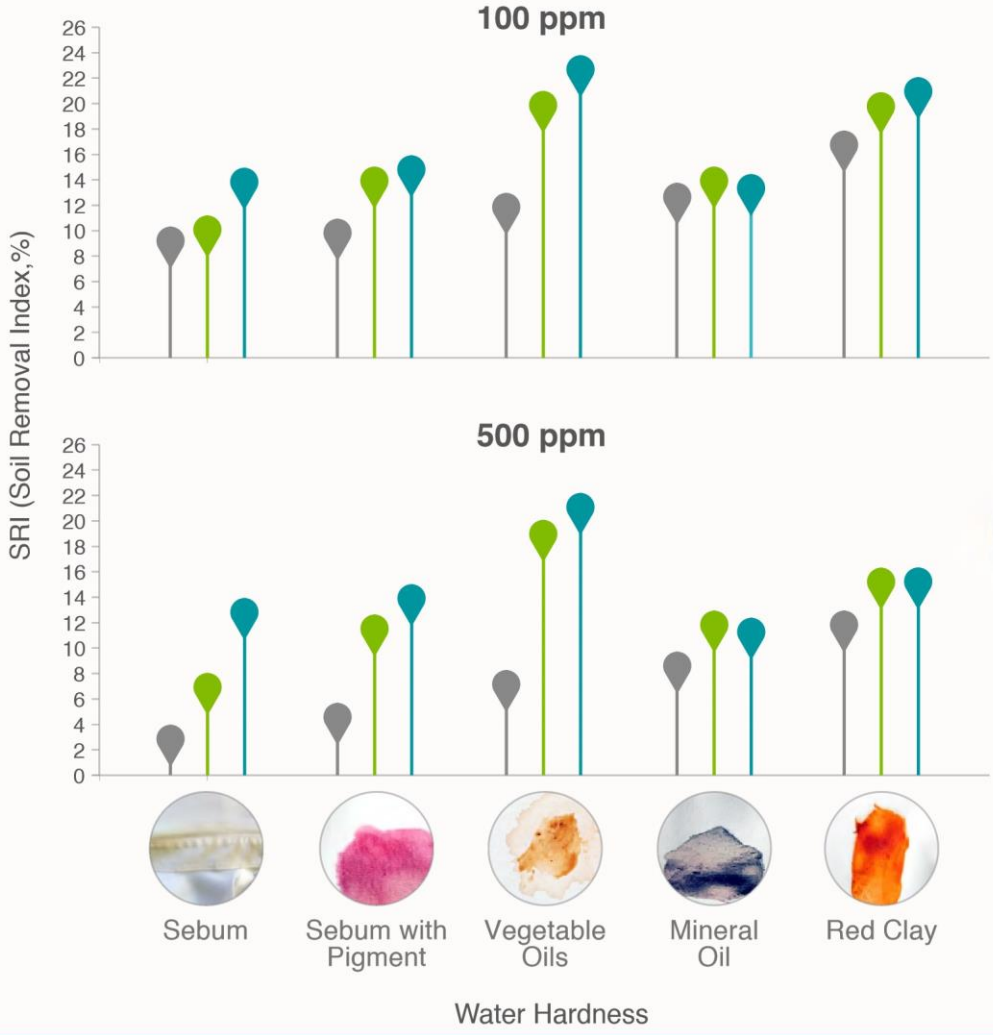
PALMFONATE

Excellent Detergency

PERFORMANCE ON OILY STAINS

LAS 50% LAS + 50% PALMFONATE MES 100% PALMFONATE MES

Comparison



PALMFONATE

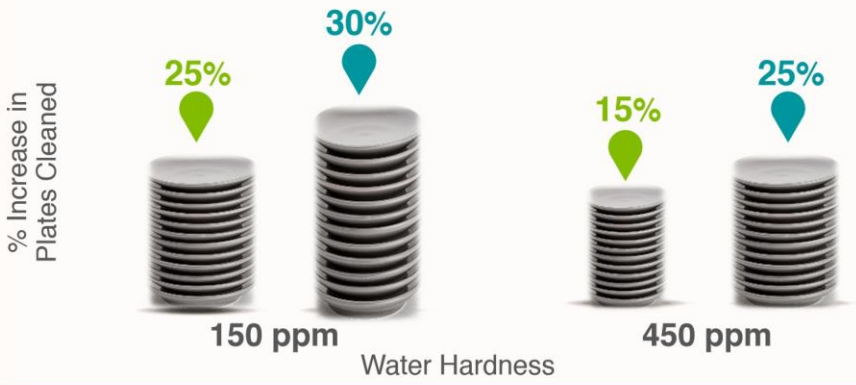
Excellent Detergency

DISHWASH PLATE COUNT PERFORMANCE

Plate Count Improvement

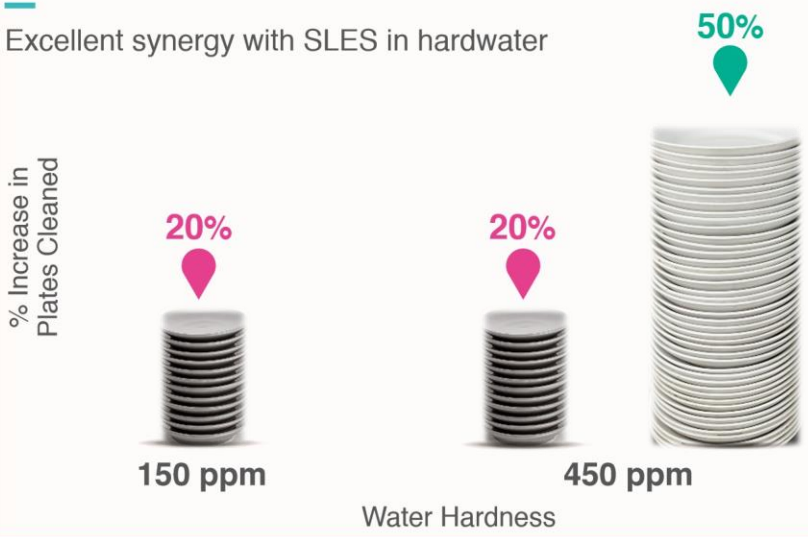
MES + LAS

MES cleans better than LAS



MES + LAS + SLES

Excellent synergy with SLES in hardwater



- 50% LAS + 50% PALMFONATE MES
- 100% PALMFONATE MES
- 45% LAS + 45% PALMFONATE MES + 10% SLES
- 90% PALMFONATE MES + 10% SLES

Mild to skin

PALMFONATE

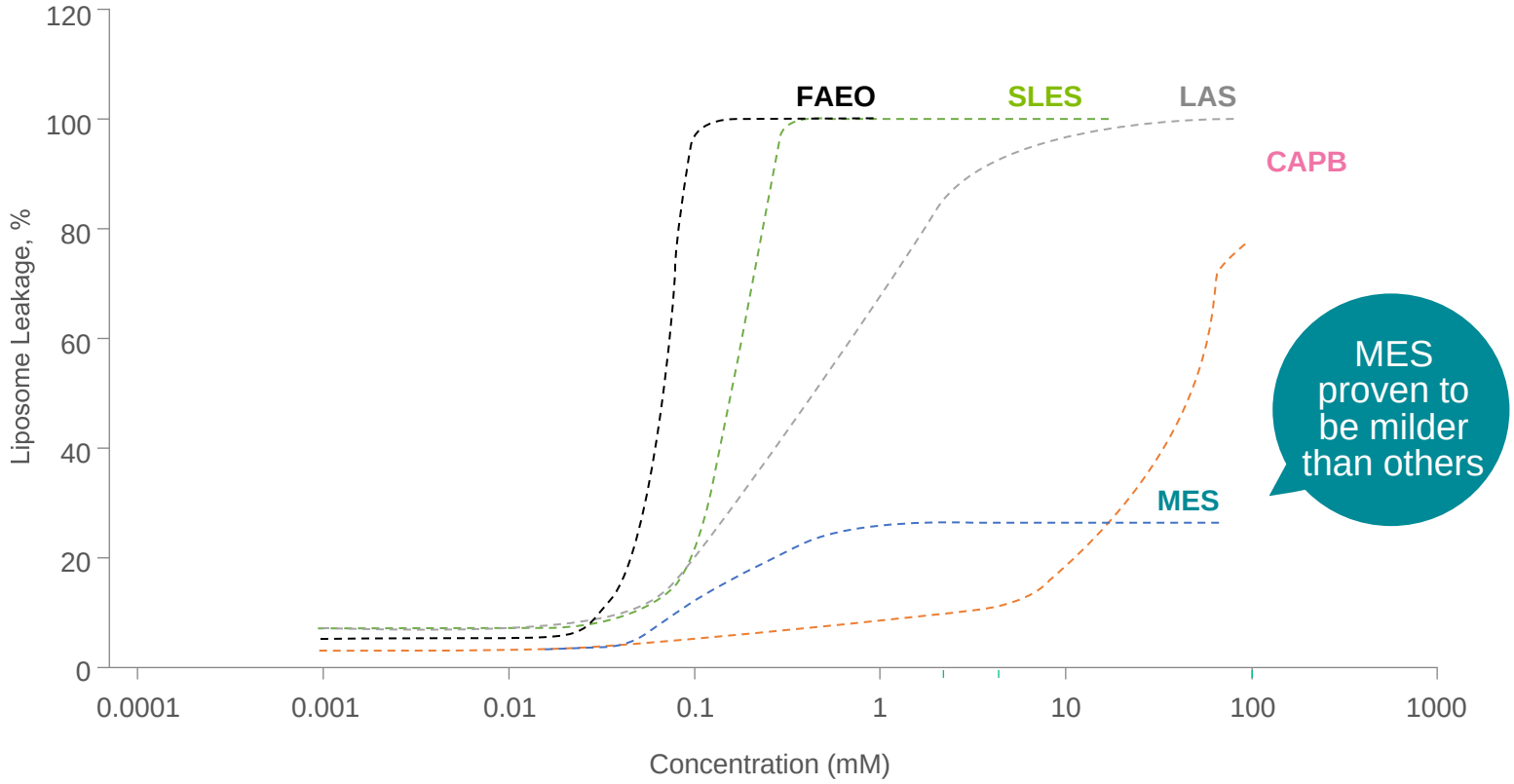
Mild to Skin

SAFE & GENTLE

Liposome Leakage Chart

Comparison

FAEO > **SLES** > **LAS** > **CAPB** > **MES**



Renewable Resource

Plant Derived

94% Renewable Carbon Index*

Ethoxylate-Free

RSPO Certified

RSPO-1106058
Check our progress at www.rspo.org

*Based on ISO 16128

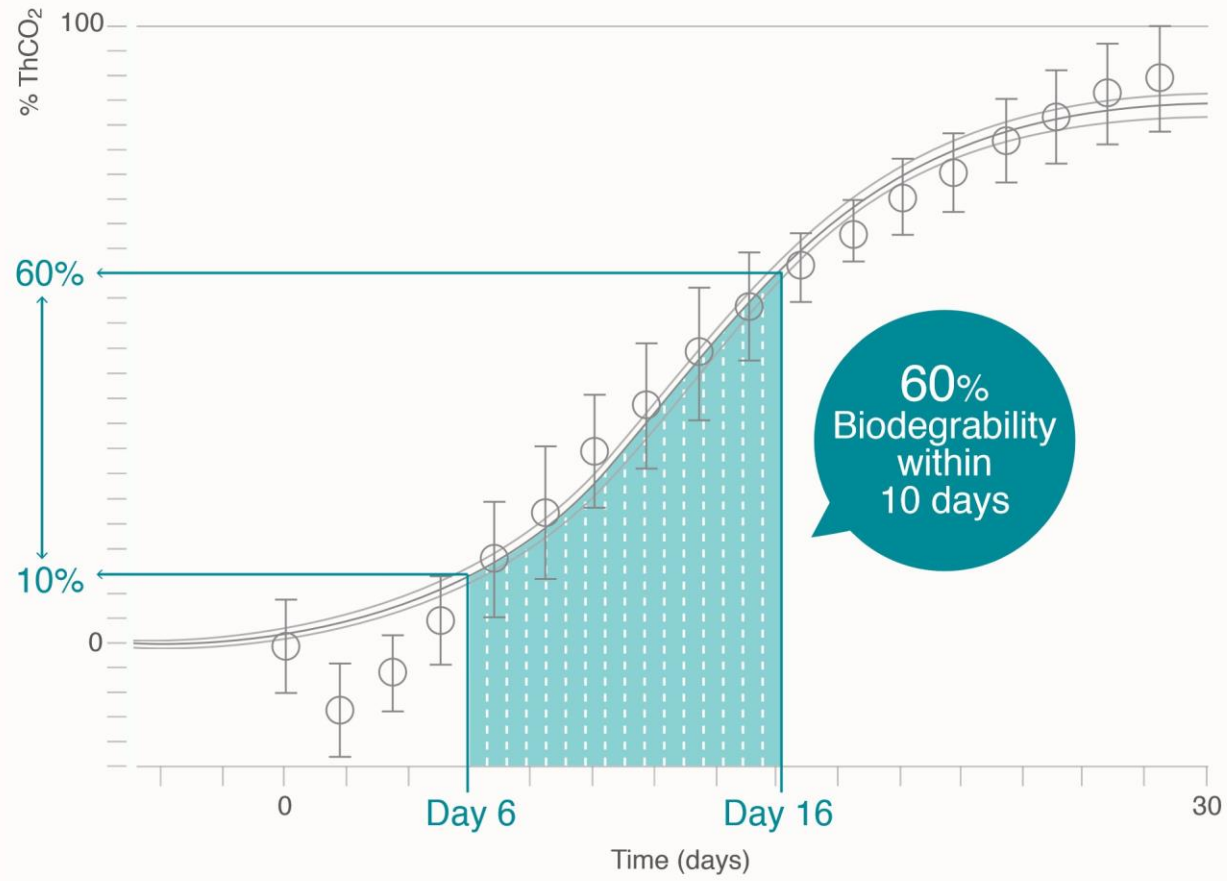
PALMFONATE

Gentle to Environment

PALMFONATE MES MEETS READILY BIODEGRADABLE CRITERIA

OECD 301B Biodegradability

Readily Biodegradable



Test chamber carbon dioxide (CO_2) measurement as the percent of theoretical maximum (% $ThCO_2$) derived from the test sample. Average values are plotted with the standard deviation (+/- SD) for the time course of the test. Curve fit is applied to calculate the statistical confidence for 95% (blue) and 95% prediction (red) boundary lines. The 10 day biodegradation window boundary is shown by the light shaded area.

PALMFONATE

Satisfaction From Us To You

25 YEARS OLEOCHEMICALS EXPERTISE BACKED BY FULLY INTEGRATED BUSINESS CHAIN

PALMFONATE

Methyl Ester Sulphonate

WE OFFER

	PALMFONATE MES		
	6709F	6728	6703
Active, %	90	80	30
Zeolite	–	10	–
Physical Form	Flakes	Powder	Paste
Pack Sizes	20kg bag 600kg bulk bag	25kg bag 700kg bulk bag	200kg HDPE drum, ISO tank

STORAGE AND HANDLING

Stacking Height	Single stacking
Recommended Storage Temperature	35°C
Recommended Storage Humidity	Maximum 80%
Store in Sheltered Area	Away from sunlight and rain

Guided Formulations

PALMFONATE

Guided Formulations

Heavy Duty Powder Detergent

Procedure

Add Parts A, B and C ingredients to the vessel while mixing. Allow to mix until homogenous. Desired fragrance and colour may be added.

Ingredients	% wt./wt.	Function
Part A		
Sodium Palmate / Sodium Palm Kernelate*	0.20	Co-Surfactant
IMBENTIN - Fatty Alcohol Ethoxylate (25EO)*	1.00	Co-Surfactant
Part B		
Sodium Sulphate	31.05	Filler
Sodium Citrate	10.00	Builder
PALMFONATE 6728	15.00	Surfactant
Sodium Carbonate	10.00	Builder
Citric Acid	2.00	pH Modifier
Sodium Dodecylbenzene Sulfonate, 80%*	15.00	Surfactant
Sodium Metasilicate Nonahydrate	15.00	Builder
Part C		
Protease	0.40	Enzyme
Amylase	0.10	Enzyme
Benzenesulfonicacid,2,2'-([1,1'-biphenyl]-4, 4'-diyldi-2,1- ethenediyl)bis-, disodium salt	0.25	Optical Brightener
Part D		
Fragrance	As Needed	Fragrance
Colour	As Needed	Colour

**Ingredients offered by KLK OLEO*

PALMFONATE

Guided Formulations

Heavy Duty Liquid Laundry Detergent

Procedure

If using **PALMFONATE 6703**: Pre-condition at 45°C. Add water to the vessel followed by Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Parts B, C, D and E ingredients, stirring to allow each ingredient to fully dissolve before adding the next. Adjust the pH using NaOH or LABSA as required. Then add desired fragrance and preservative.

If using **PALMFONATE 6709F** : Heat water in the vessel to 70°C. Add Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Parts B, C, D and E ingredients, stirring to allow each ingredient to fully dissolve before adding the next. Adjust the pH using NaOH or LABSA as required. Then add desired fragrance and preservative.

Typical Properties

Appearance	Clear
Clarity (%T at 800nm)	97
pH (neat)	7 - 8
Viscosity (cP)	2000 - 3000
Stability	Pass 12 weeks at 4°C, room temperature & 45°C Pass 5 freeze-thaw cycles

Ingredients	% wt./wt.		Function
	PALMFONATE 6703	**6709F**	
Part A			
Deionized Water	46.9	57.2	Diluent
NaOH, 50%	2.0		pH Modifier
LABSA, 96%	10.0		Surfactant
Part B			
PALMFONATE	13.3	4.4	Co-Surfactant
TENSAGEX SLES, 25%*	16.8		Co-Surfactant
Part C			
IMBENTIN Fatty Alcohol Ethoxylate (7EO)*	7.0		Solubiliser
Part D			
KOTILEN Polysorbate-20*	1.0		Viscosity Modifier
Part E			
PALMOCOL CDEA*	3.0		Viscosity Modifier
Part F			
Fragrance	As Needed		Fragrance
Preservative	As Needed		Preservative

**Ingredients offered by KLK OLEO*

PALMFONATE

Guided Formulations

Plant-based and Eco-friendly Liquid Laundry Detergent

Procedure

If using **PALMFONATE 6703**: Pre-condition at 45°C. Add water to the vessel followed by Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Parts B, C, D and E ingredients, stirring to allow each ingredient to fully dissolve before adding the next. Adjust the pH using NaOH or LABSA 96% as required. Then add desired fragrance and preservative.

If using **PALMFONATE 6709F**: Heat water in the vessel to 70°C. Add Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Parts B, C, D and E ingredients, stirring to allow each ingredient to fully dissolve before adding the next. Adjust the pH using NaOH or LABSA as required. Then add desired fragrance and preservative.

Typical Properties

Appearance	Translucent
Clarity (%T at 800nm)	58
pH (neat)	5.5 - 7.5
Viscosity (cP)	1500 - 2500
Stability	Pass 12 weeks at 4°C, room temperature & 45°C Pass 5 freeze-thaw cycles

Ingredients	% wt./wt.		Function
	PALMFONATE 6703	**6709F**	
Part A			
Deionized Water	27.2	57.2	Diluent
PALMFONATE	45	15	Co-Surfactant
TENSAGEX SLES, 25%*	16.8		Co-Surfactant
Part B			
IMBENTIN Fatty Alcohol Ethoxylate (7EO)*	7.0		Co-Surfactant
Part C			
KOTILEN Polysorbate-20*	1.0		Solubiliser
Part D			
PALMOCOL CDEA*	1.0		Viscosity Modifier
Part E			
Fragrance	As Needed		Fragrance
Preservative	As Needed		Preservative

**Ingredients offered by KLK OLEO*

PALMFONATE

Guided Formulations

Gentle to Skin Liquid Dishwash

Procedure

If using **PALMFONATE 6703**: Pre-condition at 45°C. Add water to the vessel followed by Part B in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Part C stirring to allow each ingredient to fully dissolve before adding the next. Adjust the pH using NaOH or LABSA 96% as required. Then add desired fragrance and preservative.

If using **PALMFONATE 6709F**: Heat water in the vessel to 70°C. Add Part A in sequence, stirring to allow the flakes to fully dissolve. Add Part B in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Part C stirring to allow each ingredient to fully dissolve before adding the next. Adjust the pH using NaOH or LABSA 96% as required. Then add desired fragrance and preservative.

Typical Properties

Appearance	Clear
Clarity (%T at 800nm)	88
pH (neat)	8 - 9
Viscosity (cP)	4500 - 5500
Stability	Pass 12 weeks at 4°C, room temperature & 45°C Pass 5 freeze-thaw cycles

Ingredients	% wt./wt.		Function
	PALMFONATE 6703	**6709F**	
Part A			
Deionized Water	64.8	76.0	Diluent
PALMFONATE	16.7	5.5	Co-Surfactant
Part B			
Sodium Dodecylbenzene Sulfonate 50%	10.0		Surfactant
Cocamidopropyl Betaine 30%	3.0		Co-Surfactant
PALMOCOL CDEA*	4.0		Co-Surfactant
Part C			
PALMERA Glycerine*	1.5		Humectant
Part D			
Fragrance	As Needed		Fragrance
Preservative	As Needed		Preservative

**Ingredients offered by KLK OLEO*

Alcance Group S.A
Calle 83 B SUR #52-02 tercera bodega sector La Estrella
Contact: 3005122763; 316 2539170; comercial1@alcance-group.com

Creating,Developing & Delivering Solutions.

Providing formulators & marketeers with a **differentiated edge**