



KLK OLEO

# Home & Fabric Care Solutions

Powder Detergent, Liquid Detergent  
& Dishwash Liquid



## Our Newest PALMFONATE Line

# Sulphonated Methyl Esters

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## List of Abbreviation

|      |                                |
|------|--------------------------------|
| SME  | Sulphonated Methyl Esters      |
| CDE  | Cocodiethanolamide             |
| SLES | Sodium Laureth Sulphate        |
| LAS  | Linear Alkylbenzene Sulphonate |



# PALMFONATE Market Disruption Force

## Excellent Detergency

Superior hard water performance compared with alternatives

## Care for Beautiful Clothes

Excellent enzyme compatibility

## Versatile for Use in Both Powders & Liquids

Minimise ingredient SKU for FMCG

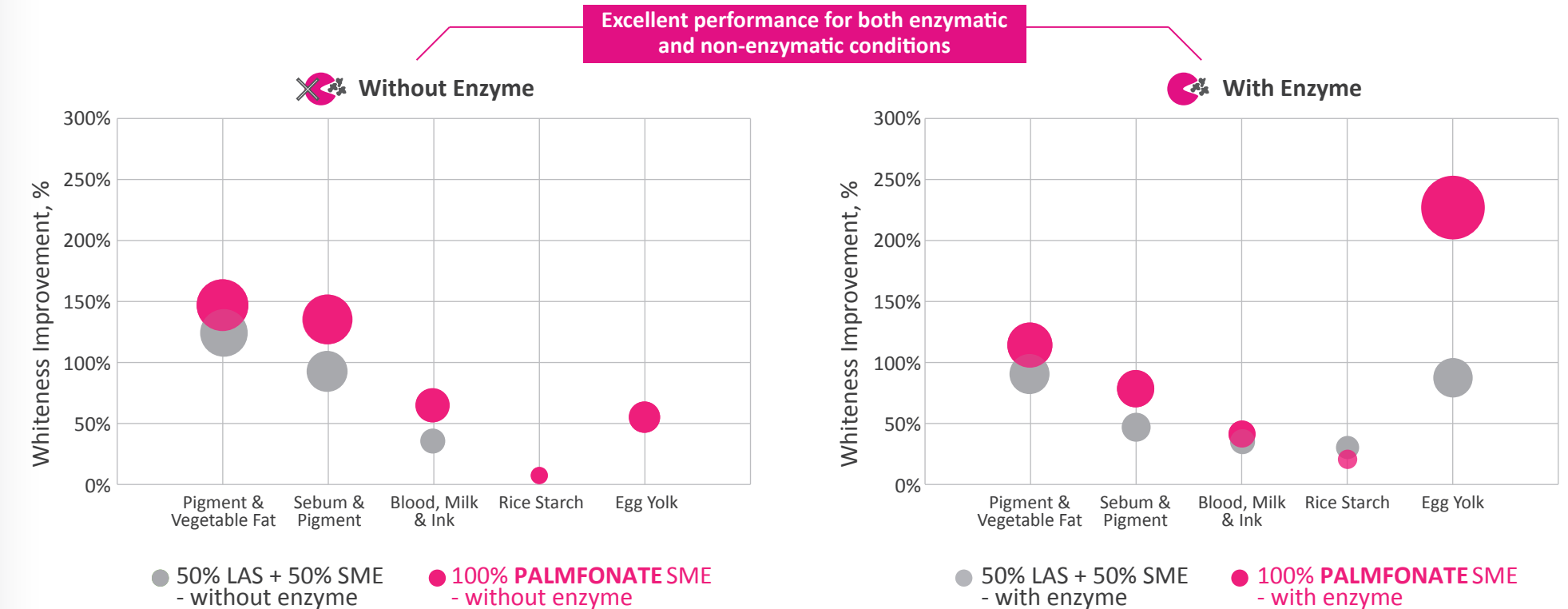
SME applicable for vast range of formulations



# Laundry Detergency Performance

Compared to Linear Alkylbenzene Sulphonate (LAS)

Detergency Improvement - Hardwater



Exceptional performance on oily stains

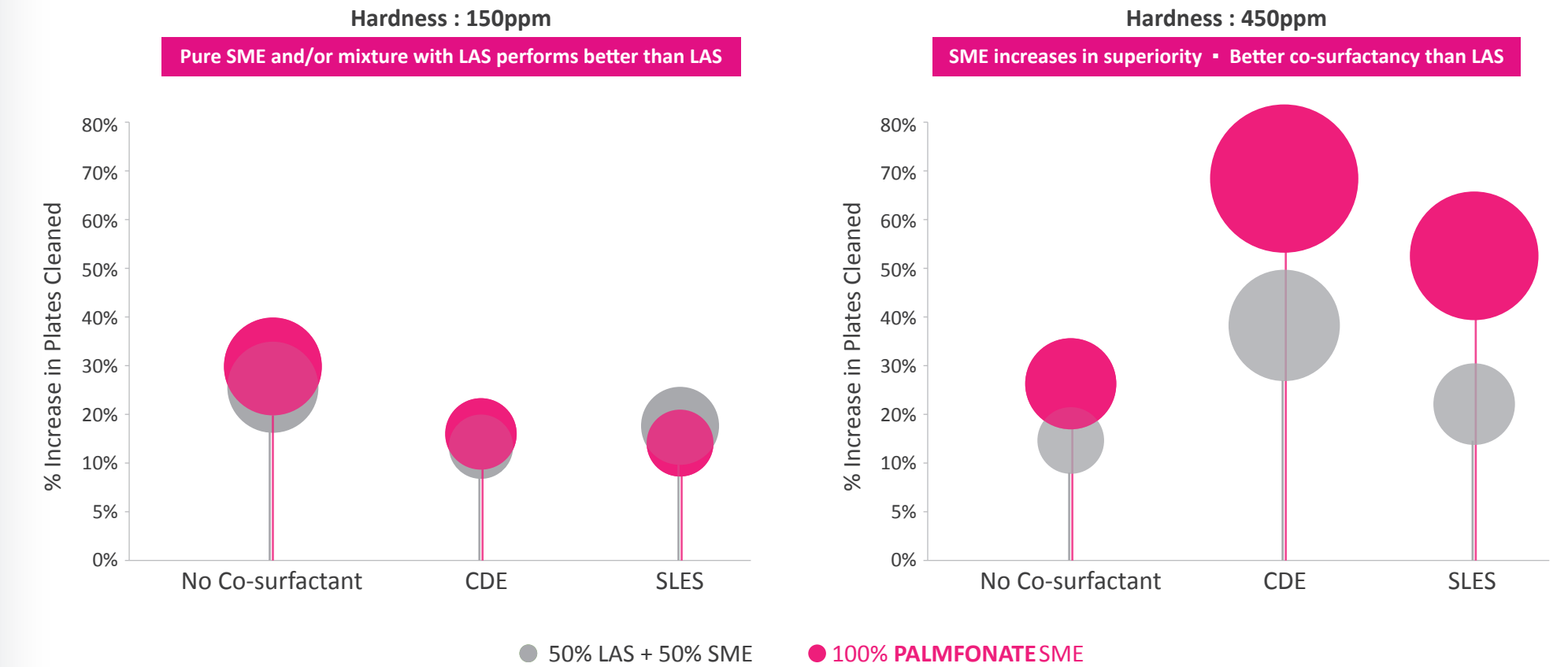




# Dishwash Plate Count Performance

Compared to Linear Alkylbenzene Sulphonate (LAS)

## Plate Count Improvement





PALMFONATE

Safe & Gentle

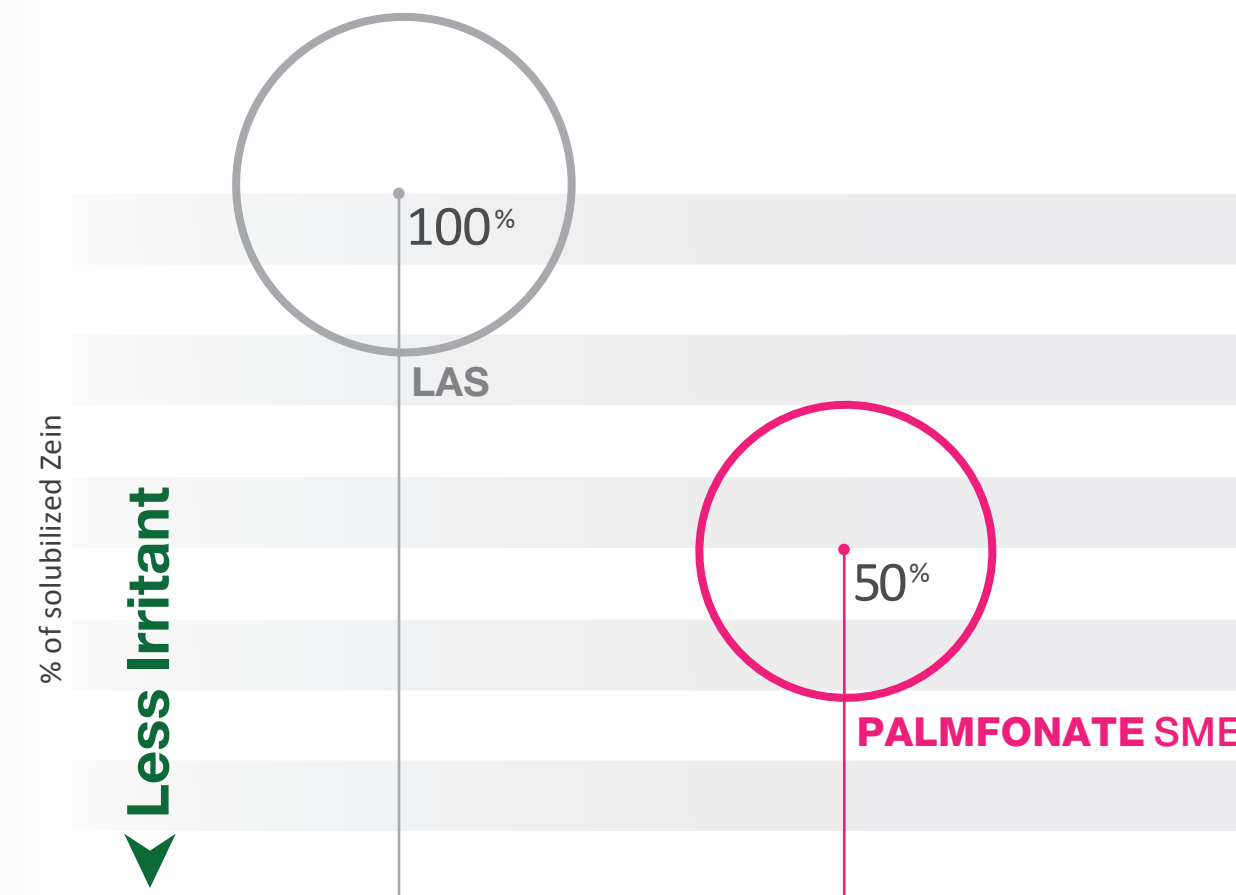
Strike Perfect Balance

Mild to skin  
Gentle to fabrics



Irritancy

Mild to Skin



Zein Test

Skin irritation potential of surfactants,  
2% active



# PALMFONATE is a Greener Surfactant

## Greener Footprint

### Eco-friendly

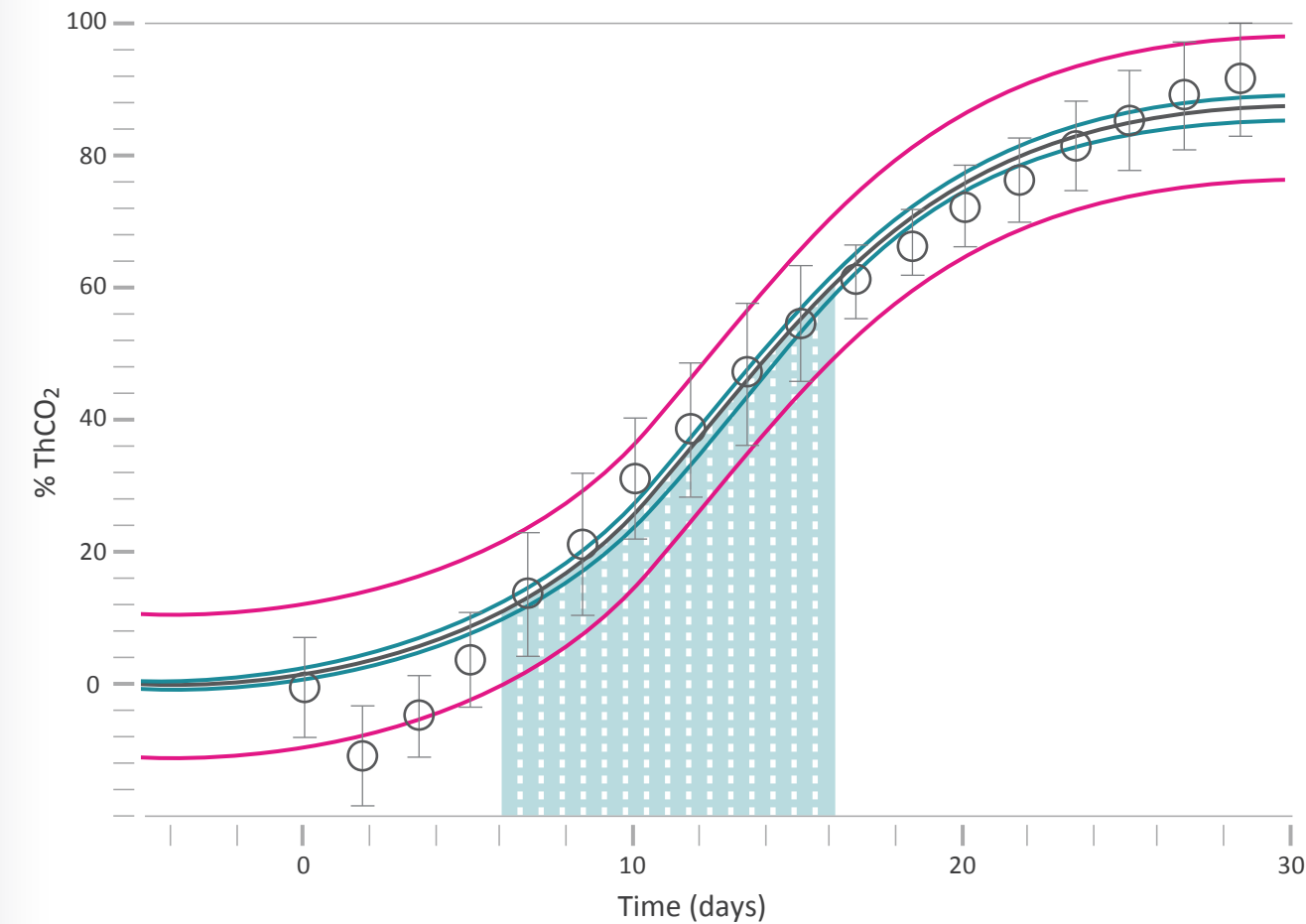
Made from renewable sources  
Sustainable  
Readily biodegradable

### Resource Efficient

Post-dose process

## OECD 301B

## Biodegradability



### PALMFONATE SME meets readily biodegradable criteria

Test chamber carbon dioxide (CO<sub>2</sub>) measurement as the percent of theoretical maximum (% ThCO<sub>2</sub>) 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.


# Satisfaction from us to you




# We Offer

| PALMFONATESME | Active, % | Physical Form | Pack Sizes               |
|---------------|-----------|---------------|--------------------------|
| 6909F         | 90        | Flakes        | 20kg bag, 600kg bulk bag |
| 6728          | 80        | Powder        | 25kg bag                 |
| 6703          | 30        | Paste         | 200kg HDPE drum          |


# Storage and Handling



Stacking height  
**Single stacking**



Recommended storage humidity  
**Max. 80%**



Recommended storage temperature  
**Max. 35°C**

Efforts should be made to ensure that inventories are managed on first in, first out basis.  
Store in sheltered area, away from sunlight and rain.



# Guided Formulation

## 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           |
|-------------------------------------------------------------------------------------------|-----------|--------------------|
| <b>Part A</b>                                                                             |           |                    |
| Sodium Palmate / Sodium Palm Kernalate*                                                   | 0.20      | Co-Surfactant      |
| Fatty Alcohol Ethoxylate (25EO)*                                                          | 1.00      | Co-Surfactant      |
| <b>Part B</b>                                                                             |           |                    |
| Sodium Sulphate                                                                           | 31.05     | Filler             |
| Sodium Citrate                                                                            | 10.00     | Builder            |
| <b>PALMFONATE SME 6728</b>                                                                | 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            |
| <b>Part C</b>                                                                             |           |                    |
| Protease                                                                                  | 0.40      | Enzyme             |
| Amylase                                                                                   | 0.10      | Enzyme             |
| Benzenesulfonicacid,2,2'-([1,1'-biphenyl]-4,4'-diyl-di-2,1-ethenediyl)bis-, disodium salt | 0.25      | Optical Brightener |
| <b>Part D</b>                                                                             |           |                    |
| Fragrance                                                                                 | As Needed | Fragrance          |
| Colour                                                                                    | As Needed | Colour             |

\*Ingredients offered by KLK OLEO





# Liquid Detergent (LAS-free)

Procedure

If using **PALMFONATE SME 6703**: Pre-condition SME 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 and D ingredients in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Desired fragrance and preservative may be added.

If using **PALMFONATE SME 6909F**: Heat water in vessel to 70-80°C.<sup>(1)(2)</sup> Add Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Add Parts B, C and D ingredients in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Desired fragrance and preservative may be added.

| Ingredients                                               | % wt./wt.   | Function           |
|-----------------------------------------------------------|-------------|--------------------|
| Part A                                                    |             |                    |
| Deionized Water for <b>PALMFONATE SME 6703 (or 6909F)</b> | 27.2 (57.2) | Diluent            |
| <b>PALMFONATE SME 6703 (or 6909F)</b>                     | 45.0 (15.0) | Surfactant         |
| SLES, 25%                                                 | 16.8        | Surfactant         |
| Part B                                                    |             |                    |
| Fatty Alcohol Ethoxylate (7EO)*                           | 7.0         | Co-Surfactant      |
| Part C                                                    |             |                    |
| Polysorbate-20                                            | 1.0         | Solubilizer        |
| Part D                                                    |             |                    |
| CDEA, 90%*                                                | 3.0         | Viscosity Modifier |
| Part E                                                    |             |                    |
| Fragrance                                                 | As Needed   | Fragrance          |
| Preservative                                              | As Needed   | Preservative       |

\*Ingredients offered by KLK OLEO

(1) Heating at 80°C is not recommended to exceed 48 hours.  
(2) Dissolved SME flakes may be stored at 35-45°C if necessary, with pH adjusted to pH 5-8, but should be consumed as soon as possible to avoid risk of microbial contamination.



# Liquid Detergent (with LAS)

Procedure

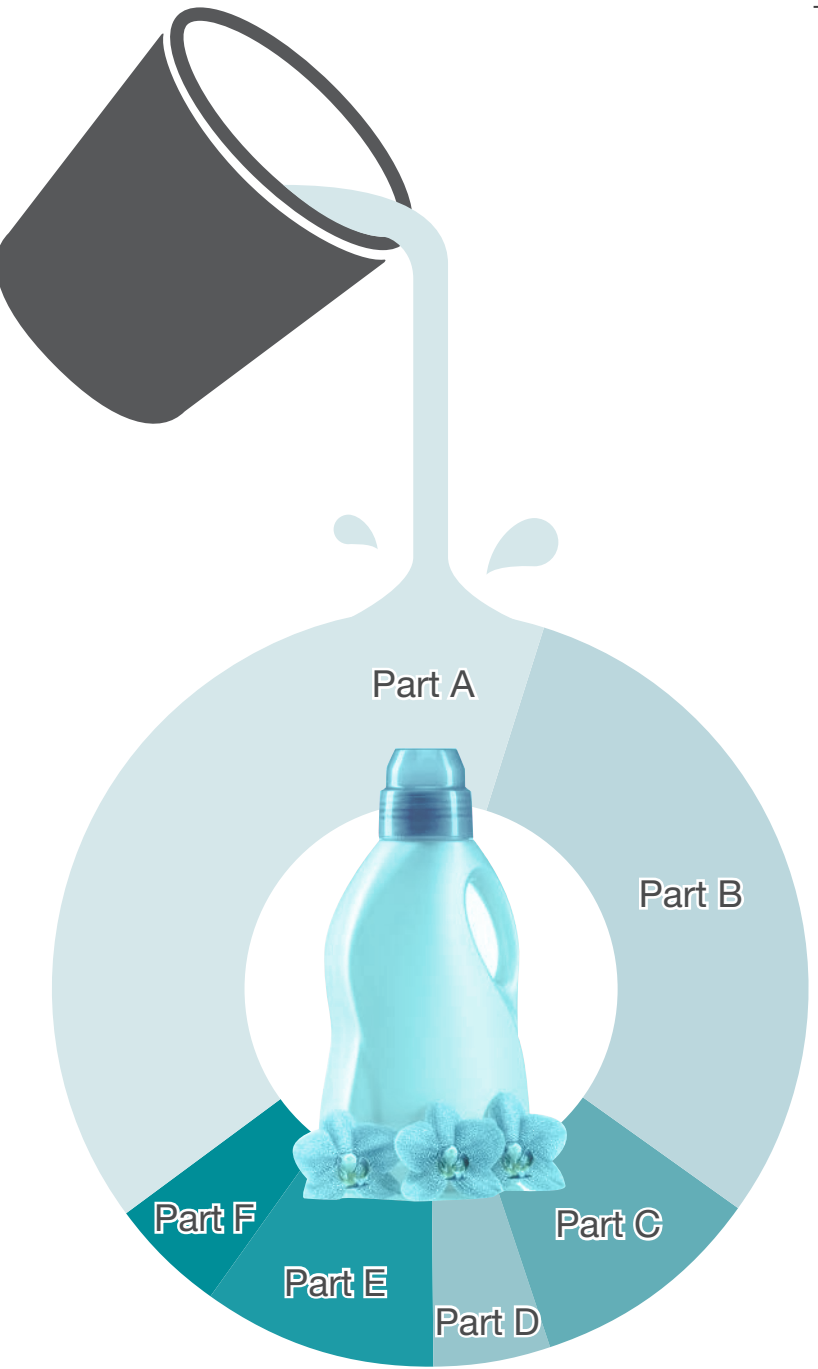
If using **PALMFONATE SME 6703**: Pre-condition SME at 45°C. Add water to the vessel, followed by Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Check that the pH is between pH 5-8. Add Parts B, C, D and E ingredients in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Desired fragrance and preservative may be added.

If using **PALMFONATE SME 6909F**: Heat water in vessel to 70-80°C.<sup>(1)(2)</sup> Add Part A in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Check that the pH is between pH 5-8. Add Parts B, C, D and E ingredients in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Desired fragrance and preservative may be added.

| Ingredients                                               | % wt./wt.   | Function           |
|-----------------------------------------------------------|-------------|--------------------|
| Part A                                                    |             |                    |
| Deionized Water for <b>PALMFONATE SME 6703 (or 6909F)</b> | 46.9 (55.8) | Diluent            |
| NaOH, 50%                                                 | 2.0         | pH Modifier        |
| LABSA, 96%                                                | 10.0        | Surfactant         |
| Part B                                                    |             |                    |
| <b>PALMFONATE SME 6703 (or 6909F)</b>                     | 13.3 (4.4)  | Surfactant         |
| SLES, 25%                                                 | 16.8        | Surfactant         |
| Part C                                                    |             |                    |
| Fatty Alcohol Ethoxylate (7EO)*                           | 7.0         | Co-Surfactant      |
| Part D                                                    |             |                    |
| Polysorbate-20                                            | 1.0         | Solubilizer        |
| Part E                                                    |             |                    |
| CDEA, 90%*                                                | 3.0         | Viscosity Modifier |
| Part F                                                    |             |                    |
| Fragrance                                                 | As Needed   | Fragrance          |
| Preservative                                              | As Needed   | Preservative       |

\*Ingredients offered by KLK OLEO

(1) Heating at 80°C is not recommended to exceed 48 hours.  
(2) Dissolved SME flakes may be stored at 35-45°C if necessary, with pH adjusted to pH 5-8, but should be consumed as soon as possible to avoid risk of microbial contamination.





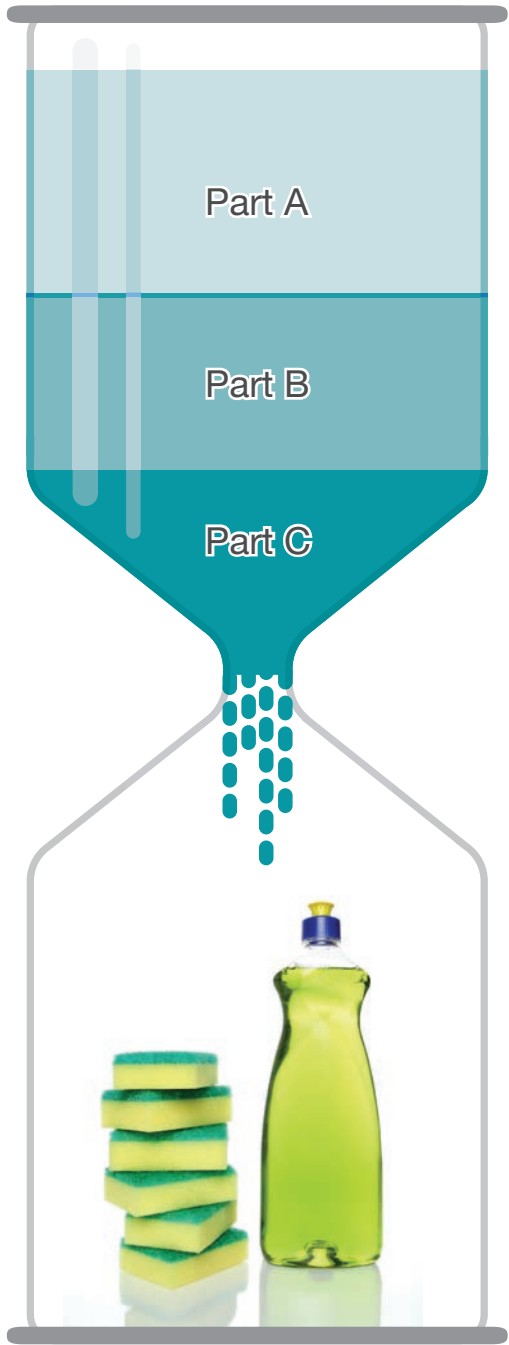
# Liquid Dishwash

### Procedure

Pre-condition SME at 45°C. Combine Part A. Stir to mix until dissolved. Add Part B in sequence, stirring to allow each ingredient to fully dissolve before adding the next. Allow to cool, then add Part C. Desired fragrance and preservative may be added.

| Ingredients                          | % wt./wt. | Function      |
|--------------------------------------|-----------|---------------|
| Part A                               |           |               |
| Deionized Water                      | 64.8      | Diluent       |
| <b>PALMFONATESME 6703</b>            | 16.7      | Surfactant    |
| Part B                               |           |               |
| Sodium Dodecylbenzene Sulfonate 50%* | 10.0      | Surfactant    |
| Cocamidopropyl Betaine 30%           | 3.0       | Co-Surfactant |
| CDEA, 80%*                           | 4.0       | Co-Surfactant |
| Part C                               |           |               |
| Glycerine*                           | 1.50      | Humectant     |
| Fragrance                            | As Needed | Fragrance     |
| Preservative                         | As Needed | Preservative  |

\*Ingredients offered by KLK OLEO



Excellence in Oleochemicals

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