



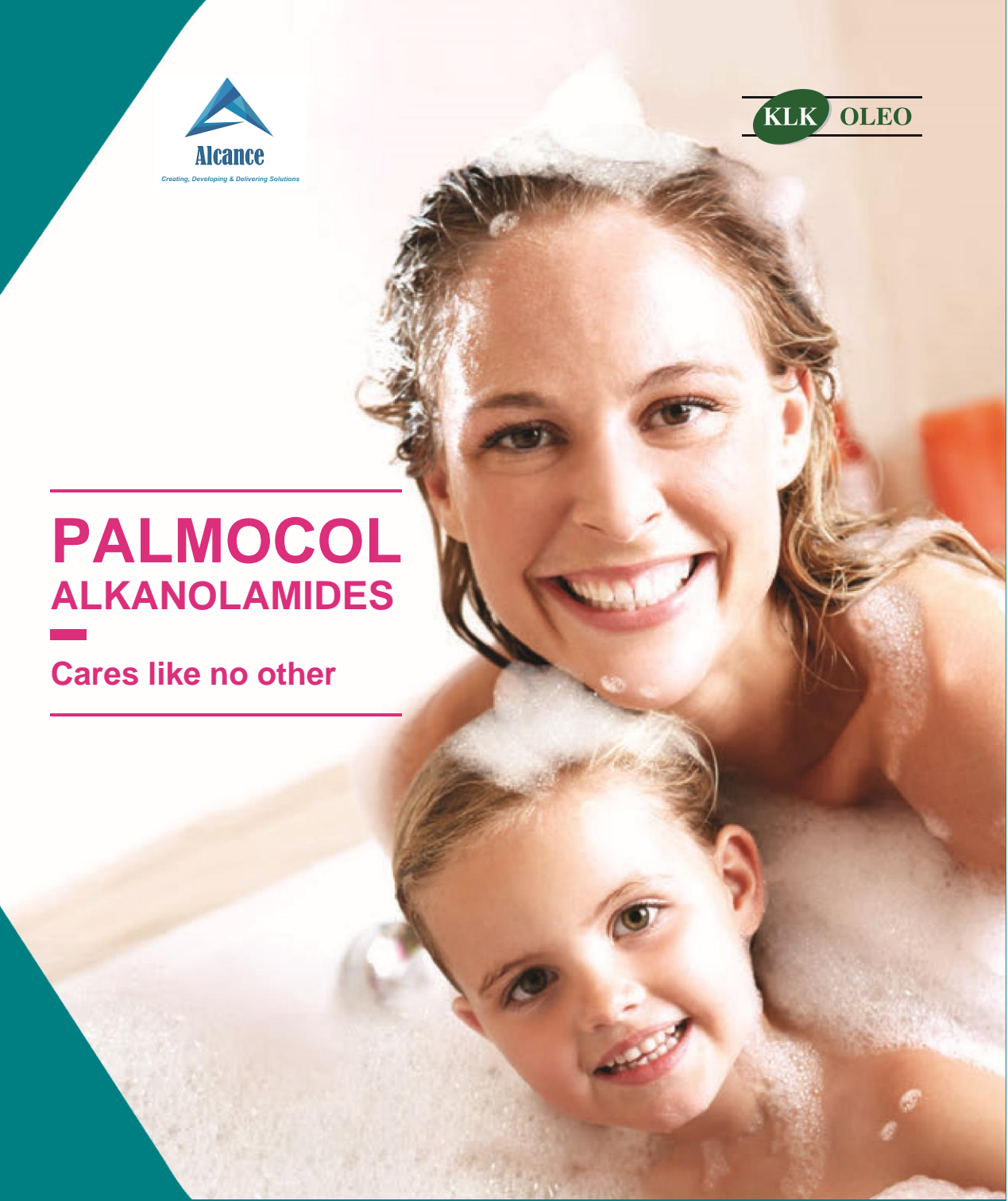
Alcance

Creating, Developing & Delivering Solutions

KLK OLEO

PALMOCOL ALKANOLAMIDES

Cares like no other



Introduction

PALMOCOL

As nonionic secondary surfactants, alkanolamides have been widely used for years in many liquid cleaning formulations. PALMOCOL Alkanolamides are the preferred choice due to its nitrosamine-free feature, a result of our superior process technology. The range comprises PMMA (Methyl Monoethanolamide), PMA (Monoethanolamide) and PDA (Diethanolamide).

Personal Care, Cosmetic and Home Care products formulated with PALMOCOL are quality assured.

PALMOCOL is an excellent thickener and foam booster. Its synergistic effect with anionic primary surfactants enables the formulation of high performance products. PALMOCOL is the ideal selection to be incorporated in safe and caring formulations.

Major Uses



Toiletries

- Shower gel
- Bubble bath
- Shower foam



Skin Care

- Hand wash
- Body wash
- Facial cleanser



Hair Care

- Shampoo
- Conditioner



Home Care

- Dish wash
- Cleaning tablet
- Hard surface cleaner



Be assured by **PALMOCOL**

- Comply with safety standard requirement for nitrosamine, N-nitrosodiethanolamine (NDELA).
- Driven by superior process technology.

Functions of PALMOCOL



Viscosity Modifier

Good viscosity modifier in combination with sulfates.



Foam Booster

Enhance foam properties.



Foam Stabiliser

Long-lasting bubble foam, even in hard water.

PALMOCOL Alkanolamides provide multiple functions, create synergistic effect especially with anionic primary surfactants. Typically, anionic primary surfactant cannot build viscosity without a secondary surfactant or thickening agent.



Product Range

| | | | |
|---------------------|---|---|---|
| Product Type | PALMOCOL Methyl Monoethanolamide (PMMA) | PALMOCOL Monoethanolamide (PMA) | PALMOCOL Diethanolamide (PDA) |
| INCI Name | Palm Kernelamide MMEA (PKMMEA) Cocamide Methyl MEA (CMMEA) | Palm Kernelamide MEA (PKMEA) Cocamide MEA (CMEA) | Palm Kernelamide DEA (PKDEA) Cocamide DEA (CDEA) |
| Product Code | PMMA 1300 PMMA 2300 | PMA 1100 PMA 2300 | PDA 1100 PDA 1300 PDA 2300 |
| Appearance | Liquid | Flakes | Liquid |

**PALMOCOL Methyl
Monoethanolamide (PMMA)**


PALMOCOL PMMA is in clear liquid form and cold-mixable. Easy to use and energy saving as no heating is required.

PALMOCOL PMMA shows excellent thickening effect and foaming performance in anionic surfactant formulations.

Better Stability At Low Temperature

PALMOCOL PMMA

- low freezing point, below -10°C .
- offers better finished product stability at low temperature up to -14°C .

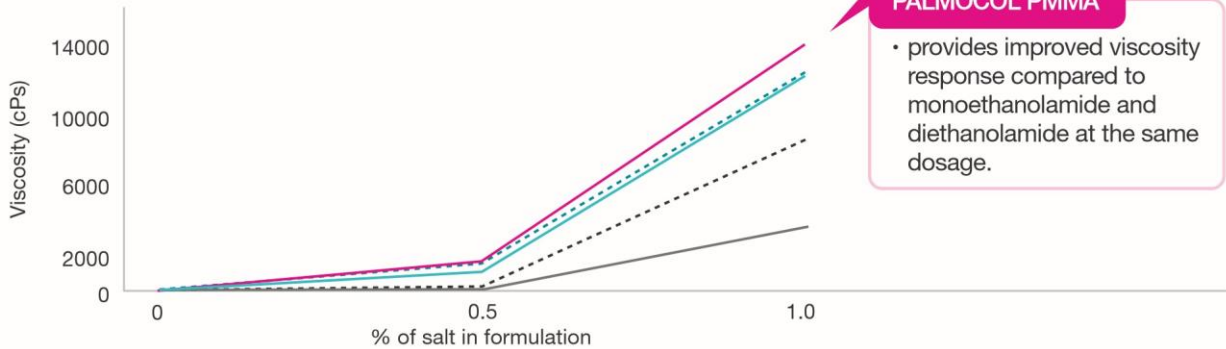


Diethanolamide

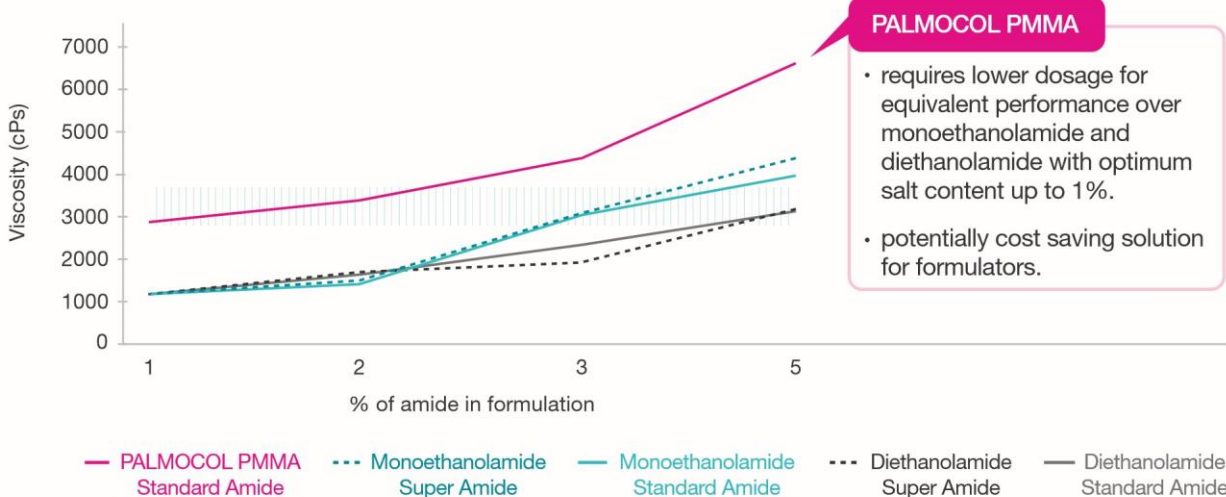
PALMOCOL PMMA

Performance in Formulation

Improved Viscosity Response



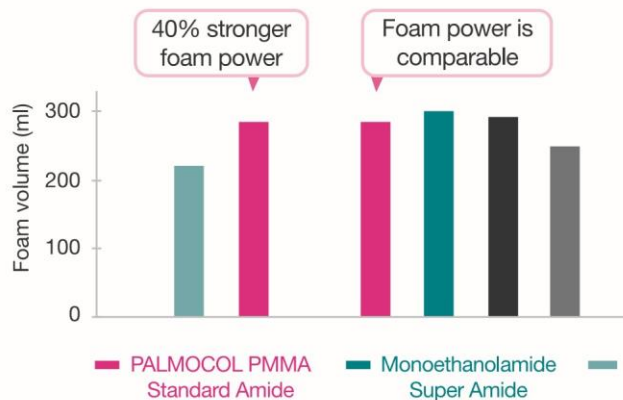
Superior Thickening Effect



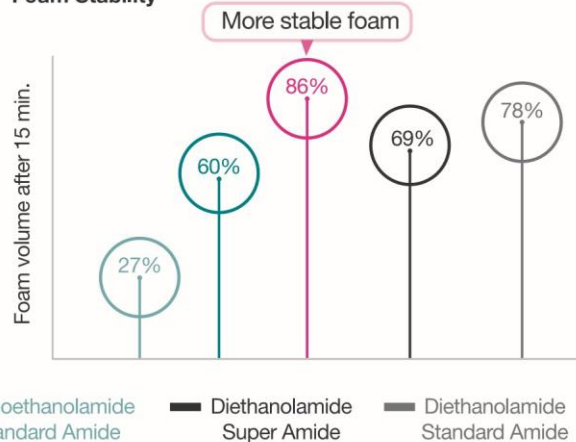
Performance in Formulation

Higher Foam Power and Foam Stability

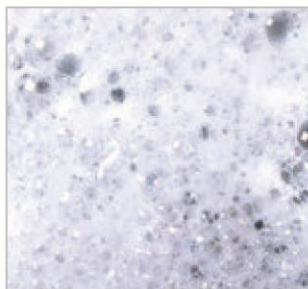
Foam Power



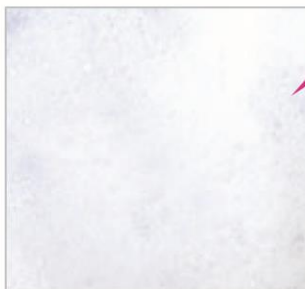
Foam Stability



Better Foam Quality



Diethanolamide



PALMOCOL PMMA

PALMOCOL PMMA

- produces smoother and softer foam than diethanolamide.

Standard Specification

PALMOCOL PMMA Range of Product

PALMOCOL PMMA 1300

| | |
|----------------------|--|
| CAS no. | 371967-96-3 |
| INCI name | Palm Kernelamide Methyl MEA Cocamide Methyl MEA |
| Total amide, % | 85 min |
| Free amine, % | 2 max |
| Glycerol, % | 12 max |
| pH (1% aq. solution) | 9-11 |
| Moisture, % | 0.5 max |
| Pack size | 200kg, 210kg drum Bulk |
| Shelf life | 24 months |

Guided Formulation

| Ingredient, % | Liquid Body Shampoo |
|---------------------|-----------------------------|
| Water | q.s to 100 |
| Sulphate surfactant | 18 |
| Chelating agent | 6 |
| Amide surfactant | 3 PALMOCOL PMMA 1300 |
| Humectant | 3 |
| Preservative | q.s |
| Sodium chloride | q.s |
| Perfume | q.s |
| Colourant | q.s |

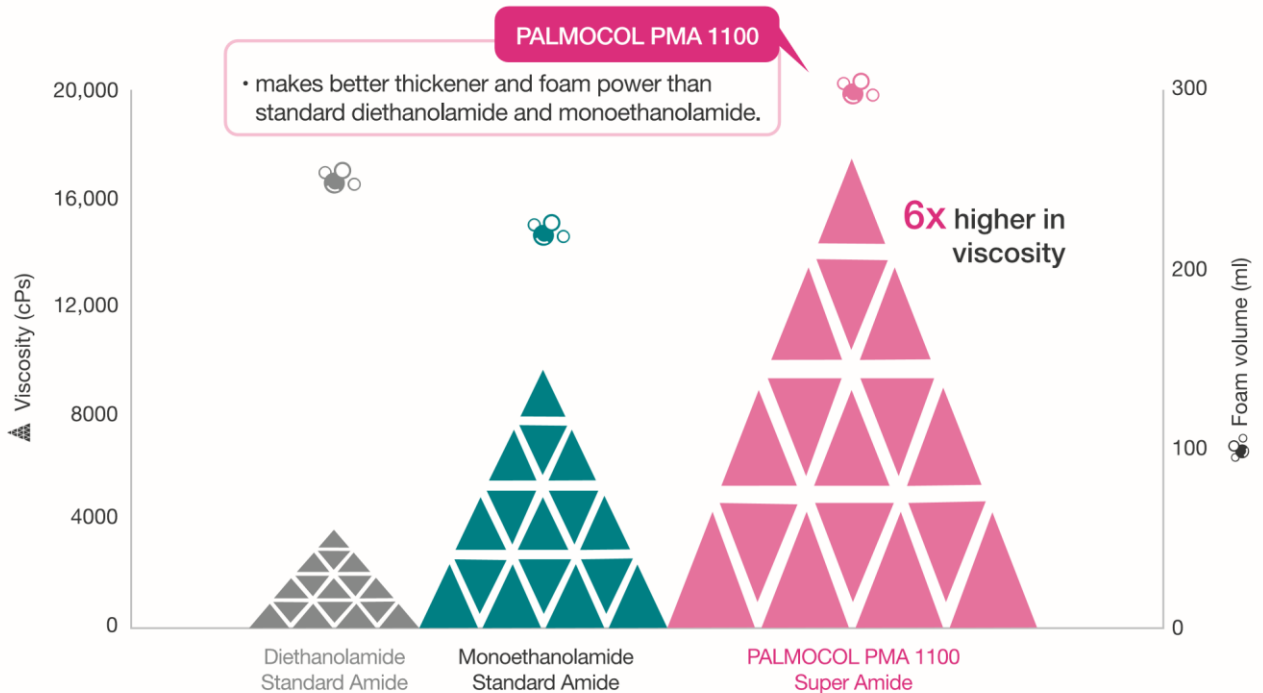
PALMOCOL
Monoethanolamide (PMA)

PALMOCOL PMA is in flake form at ambient temperature, logistically easier and cheaper to handle.

PALMOCOL PMA with its high melting point (up to 75°C) reduces dissolution rate, making it an ideal choice for cleaning tablet formulations.

Performance in Formulation

Enhanced Thickening Effect and Foam Power



PALMOCOL
Monoethanolamide (PMA)

Standard Specification

| PALMOCOL PMA Range of Product | PALMOCOL PMA 1100 | PALMOCOL PMA 2300 |
|-------------------------------|--------------------------------------|--------------------------------------|
| CAS no. | 69227-24-3 | 69227-24-3 |
| EINECS no. | 273-927-3 | 273-927-3 |
| INCI name | Palm Kernelamide MEA Cocamide MEA | Palm Kernelamide MEA Cocamide MEA |
| Total amide, % | 93 min | 80 min |
| Free amine, % | 2 max | 2 max |
| Moisture, % | 1 max | 1 max |
| Melting point, °C | 65-75 | 60-70 |
| Pack size | 25kg bag | 25kg bag 408kg bulk bag |
| Shelf life | 18 months | 12 months |

Guided Formulation

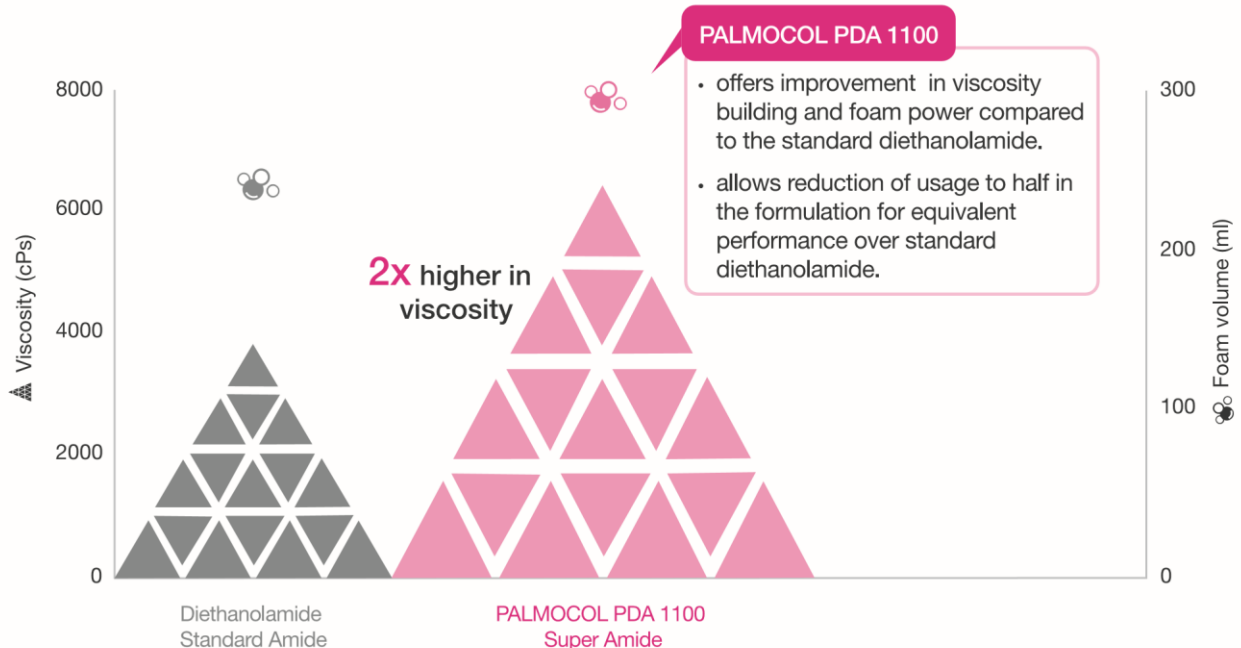
| Ingredient, % | Liquid Body Shampoo |
|---------------------|---------------------|
| Water | q.s to 100 |
| Sulphate surfactant | 18 |
| Chelating agent | 6 |
| Amide surfactant | 5 PALMOCOL PMA 2300 |
| Humectant | 3 |
| Preservative | q.s |
| Sodium chloride | q.s |
| Perfume | q.s |
| Colourant | q.s |

PALMOCOL PDA is in liquid form at ambient temperature, thus it is pourable and pumpable for liquid formulations.

PALMOCOL PDA 1100, a super amide with the highest amide content (>90%) offers more superior performance in viscosity than standard diethanolamide.

Performance in Formulation

Improved Viscosity Performance and Foam Power



Standard Specification

| PALMOCOL PDA Range of Product | PALMOCOL PDA 1100 | PALMOCOL PDA 1300 | PALMOCOL PDA 2300 |
|----------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| CAS no. | 68155-07-7 | 68155-07-7 | 68155-07-7 |
| EINECS no. | 268-935-9 | 268-935-9 | 268-935-9 |
| INCI name | Palm Kernelamide DEA Cocamide DEA | Palm Kernelamide DEA Cocamide DEA | Palm Kernelamide DEA Cocamide DEA |
| Total amide, % | 93 min | 85 min | 80 min |
| Free amine, % | 5 max | 5 max | 5 max |
| Glycerol, % | 5 max | 10 max | 10 max |
| Moisture, % | 1 max | 1 max | 1 max |
| pH (1% aq. solution) | 9-11 | 9-11 | 9-11 |
| Pack size | 200kg drum Bulk | 200kg drum Bulk | 200kg drum Bulk |
| Shelf life | 24 months | 24 months | 24 months |

Guided Formulation

| Ingredient, % | Bubble Bath |
|---------------------|----------------------------|
| Water | q.s to 100 |
| Sulphate surfactant | 36 |
| Chelating agent | 5 |
| Amide surfactant | 2 PALMOCOL PDA 1100 |
| Humectant | 3 |
| Preservative | q.s |
| Sodium chloride | q.s |
| Perfume | q.s |
| Colourant | q.s |




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