

AKYPO® LM- 40



IMPROVED FOAM RETENTION
FOR VERTICAL CLEANING

I&I

- Food & Beverage
- Vehicle cleaning
- Building care
- Health care



Household

- Oven cleaners
- Bath cleaners
- Window cleaners



The technology of KAO's surfactants at your service

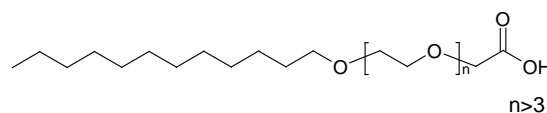
Based on ether-carboxylate chemistry

- Specially designed for **Open Plant Cleaning** (F&B)
- Outstanding **foam retention** on vertical surfaces
- Stable in **extreme pH** conditions
- Compatible with **oxidizing** agents
- Good eco-toxicological profile

Properties	
Active Matter	92%
Appearance (25°C)	Clear, colorless to pale yellowish liquid
Viscosity (20°C)	100 - 500 cP
pH (1%)	2.0 – 3.5



Chemical description name
Lauryl / Myristyl Ether Carboxylic Acid



PERFORMANCE EVALUATION: FOAM RETENTION

Aqueous solution (10%) of a model formulation with 5% NaOH, 5% Surfactants (Anionic / Amine Oxide: 3/2).

On ceramic tiles

On stainless steel

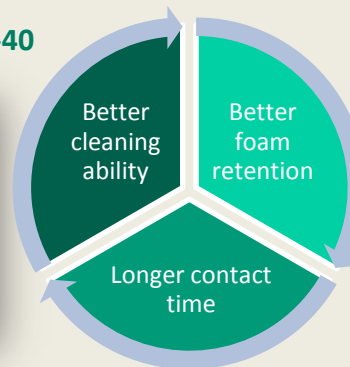
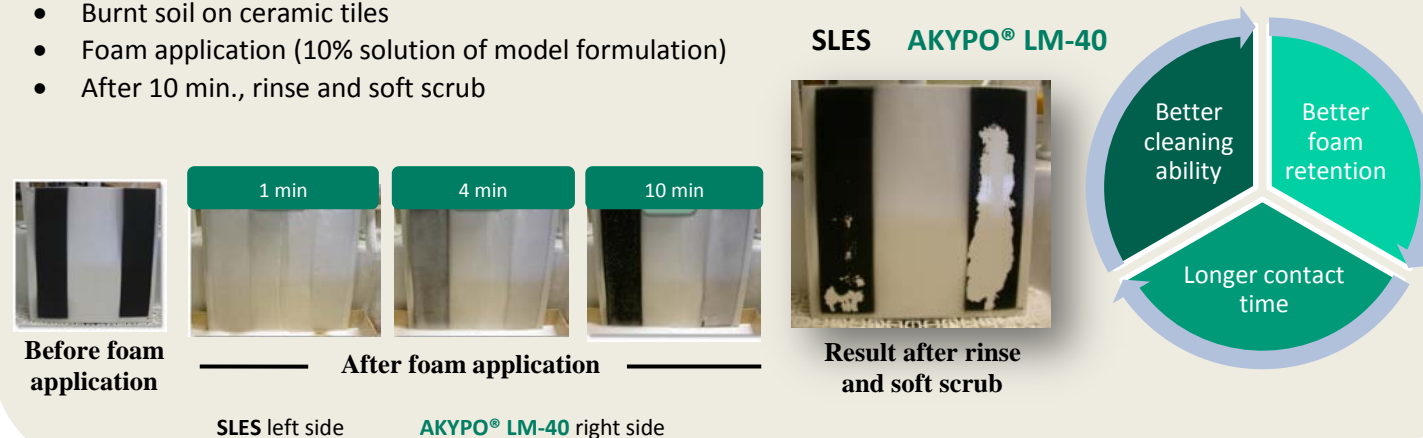


Formula based on **AKYPO[®] LM-40** remains on the surface for more than 10 minutes

PERFORMANCE EVALUATION: CLEANING

Effect of contact time

- Burnt soil on ceramic tiles
- Foam application (10% solution of model formulation)
- After 10 min., rinse and soft scrub



GENERAL GUIDELINES – RELATED TO PERFORMANCE

Combined with Amphoteric Surfactants

AKYPO[®] LM-40 / OXIDET[®] DMCLD:	from 4/1 to 1.5/1
AKYPO[®] LM-40 / BETADET[®] SHR:	from 2/1 to 1/1
AKYPO[®] LM-40 / BETADET[®] S-20:	from 3/1 to 1.5/1

AKYPO[®] LM-40 reaches its best performance in alkaline formulations combined with amphoteric surfactants at specific ratios. Foam ability and retention time depend on the ratio between **AKYPO[®] LM-40** and amphoteric surfactant such as Amine Oxides (e.g. **OXIDET[®] DMCLD** or **OXIDET[®] DM-20**) or Sulfobetaines (**BETADET[®] SHR** or **BETADET[®] S-20**). These amphoteric surfactants are selected according to the alkali content. See below chart:

	Ratio AKYPO[®] LM-40 / Amphoteric surfactant															
	4/1	3/1	2/1	1.5/1	1/1	4/1	3/1	2/1	1.5/1	1/1	4/1	3/1	2/1	1.5/1	1/1	
OXIDET [®] DMCLD	Dark Green	Dark Green	Dark Green	Light Green	Light Green	Dark Green	Dark Green	Dark Green	Light Green	Light Green	Not suitable	Not suitable	Not suitable	Not suitable	Not suitable	
BETADET [®] SHR	Not suitable	Not suitable	Dark Green	Light Green	Light Green	Not suitable	Not suitable	Dark Green	Light Green	Light Green	Not suitable	Not suitable	Dark Green	Light Green	Light Green	
BETADET [®] S-20	Not suitable	Dark Green	Dark Green	Light Green	Light Green	Dark Green	Dark Green	Dark Green	Light Green	Light Green	Not suitable	Not suitable	Dark Green	Light Green	Light Green	
	5% NaOH					10% NaOH					15% NaOH					

■ Outstanding FOAM RETENTION
■ Excellent FOAM RETENTION
■ Conventional FOAM RETENTION
■ Not suitable FOAM QUALITY
■ Not feasible formulation

Application

The content of surfactants in formulations can range from 5 to 10%. Developed compositions are usually applied at room temperature and diluted in water. Percentage of dilution can range from 1% and up to 10%, depending on total concentration of surfactants and alkali content. A special device to create foam is used for the application. Foam level and foam retention time are influenced by the type of device used.

GENERAL GUIDELINES - RELATED TO FORMULABILITY

Alkaline pH

For high alkalinity content, better formulation feasibility is achieved, when the content of **amphoteric surfactant**, specially **Sulfobetaines** is increased.

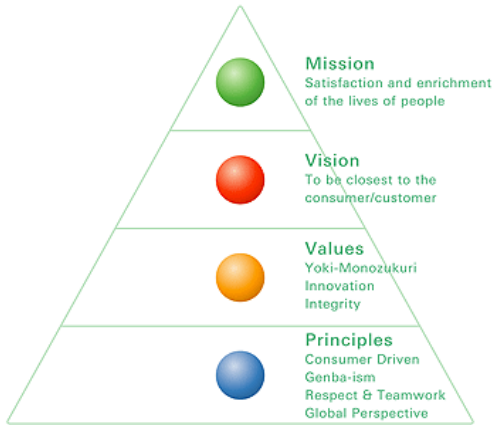
Hydrotropic Agents

The addition of hydrotropes improves storage stability at low temperature, specially at high alkaline pH. **Glycols**, such as **Butylglycol**, or **Aryl Sulfonates**, such as **Sodium Xylene** or **Cumene Sulfonates** (SXS or SCS) are recommended.

Chelating Agents

Addition of chelating agents, such as **EDTA.2Na**, **MGDA.3Na**, or **phosphonates**, is needed when hard water is used for the dilutions.

For further information check our guideline formularies or visit our website www.kaochemicals-eu.com.



The Kao Way

Mission

Our Mission is “to strive for the wholehearted satisfaction and enrichment of the lives of people globally” through the Company’s core domain of value added chemicals.

Fully committed to this mission, all members of the Kao Group work together with passion to provide products of excellent value created from the customer’s perspective. In so doing, we “share joy with the customer”.

Vision

We aim to be “a global group of companies that is closest to the customer in each market”, earning the respect and trust of all stakeholders and contributing towards the sustainable development of society.

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Our Chemicals, Your Business