

# PEARLING AGENTS PERSONAL CARE

**SILKY EFFECT  
BRILLIANT APPEARANCE  
GIVE IT A SHINE!**

FIND THE PEARL  
OF YOUR DREAMS

PROVIDING SOLUTIONS WITH KAO TECHNOLOGY



# PEARLING AGENTS RANGE

## Enhance the pearl effect with Kao

### RANGE DESCRIPTION

Pearling agents are widely used in cleansing cosmetic products to improve their appearance. When they are added to a formulation, a white product with a high shiny and brilliant appearance is obtained, giving them a rich and luxurious look. Many different materials can be used to obtain the pearl effect but a hot process is needed if waxes are used directly. In order to save time and energy, Kao Chemicals Europe has developed a complete range of pearling products ready to be used in a cold process. Kao Pearling Agents Concentrates are all based on mixtures of Glycol Distearate waxes together with specialty surfactants commonly used in end consumer products. The pseudoplastic behavior of these

products enables easier handling and pumping operations while the controlled crystallization production provides excellent performance to final formulates.

- **DANOX® PL-10** is a highly concentrated preservative-free product without fatty amides or nitrogen-based surfactants. Fulfills EU Ecolabel Criteria.
- **DANOX® BF-22** is a pearling product with a high wax content that contains no alkanolamides or anionic surfactants, and is suitable for sulfate-free cleansing products.
- **DANOX® P-15** and **AKYPO® SAL 2010 S** are based on fatty amides, with the former being preservative-free.

	DANOX® PL-10	DANOX® BF-22	DANOX® P-15	AKYPO® SAL 2010 S
<b>COMPONENTS:</b>				
Na Laureth Sulfate	√		√	√
Cocamide DEA				√
Cocamide MEA			√	
Cocamidopropyl Betaine		√		
Laureth-4		√		
Glycereth-2 Cocoate	√			
Glycol Distearate	√	√	√	√
<b>% DRY MATTER</b>	50-54	42-45	39-41	35 min.
<b>pH</b>	4.0-5.0 (as it is)	3.0-4.0 (as it is)	3.5-4.5 (as it is)	7.5-8.5 (10%)
<b>VISCOSITY (cP)</b>	10000 max.	10000 max.	12000 max.	1500 - 5000
<b>PRESERVATIVE</b>	NO	YES (BA)	NO	YES (MIT)













MIT: Methylisothiazolinone  
BA: Benzoic Acid



## MAIN FEATURES

All our pearling agents are cold processing and is therefore recommended to add them during the last formulation step. The pearlescent appearance of cleansing products (bath gels, shampoos, etc.) can be adjusted by selecting the appropriate pearling agent at the right dosage, making possible to obtain a wide range of brilliance, shine, whiteness or silkiness effect. The following table shows the main properties of each pearling agent and the visual appearance that should be expected.

- **DANOX® PL-10** gives a silky pearly gloss; it provides excellent stability thanks to its large apparent density in a broad range of cleansing products from baby gels to antidandruff shampoos.
- **DANOX® BF-22** is a highly-effective pearling agent; less amount is needed to obtain a good white coverage giving a brilliant white pearly shine.
- **DANOX® P-15** and **AKYPO® SAL 2010 S** are very effective pearling agents with an excellent cost-performance ratio.

TRADE MARK	DANOX® PL-10	DANOX® BF-22	DANOX® P-15	AKYPO® SAL 2010 S
Wax content (%)	~ 10	~ 22	~ 15	~ 11
Particle size (µm)	9-11	8-11	11-15	9-11
Apparent density (20°C, g/mL)	1.02-1.08	1.01-1.03	1.02-1.05	1.03-1.05
Use concentration %	2-6	1-4	2-6	2-6
Optimum dose %	3	2	3	3
Optimum dose appearance				
	3%	2%	3%	3%
Dispersion	Easy	Easy	Very easy	Very easy
Appearance	Silky pearly gloss	Brilliant white pearly shine	Slightly metallic luster	Pearly gloss
Pearling-Brilliance				
Opacity				

# DANOX® PL-10 for mild cleansing products

DANOX® PL-10 is a unique pearling concentrated product developed by Kao Chemicals Europe. It is mild to humans and to the environment, preservative-free, contains no N-based surfactants and brings extra benefits, apart from an excellent shine and brightness effect.

Composition is based on SLES as anionic surfactant, Glycol Distearate as the pearling wax and a Kao specialty, LEVENOL® H&B (Glycereth-2 Cocoate), which provides thickening properties, enhances the foam and improves skin and hair condition due to its emollient properties.

## MAIN FEATURES

- Gives a silky, pearly, glossy appearance
- Highly concentrated
- Preservative-free
- Cold-processable
- Easy to handle, pump and disperse
- Foam booster
- Improves thickening
- Not tested on animals
- Environmentally friendly
- Fulfills EU Ecolabel criteria

<b>INCI Name</b>	Glycereth-2 Cocoate , Sodium Laureth Sulfate, Glycol Distearate
<b>CAS Number</b>	68201-46-7, 68891-38-3, 91031-31-1
<b>Appearance (20°C)</b>	Pearled White Fluid Paste
<b>Dry matter (%)</b>	50-54
<b>pH (as it is)</b>	4-5
<b>Viscosity (20°C, cP)</b>	10000 max.

DANOX® PL-10 is normally used in a concentration range from 2 to 6%. Depending on the dosage, the result would be a brilliant, shiny, silky or coarse/fine appearance. The intensity of the pearling effect is also dependent on the use concentration.

DANOX® PL-10 optimal use concentration is 3% in order to obtain a balanced opacifying and pearling effect in cleansing products, although lower and higher quantities can be used after checking the stability.



<b>Acute Oral Toxicity</b>	Non toxic
<b>Eye Irritation</b>	RBC test > Non Irritant BCOP test > Slightly Irritant
<b>Skin Irritation</b>	Zein test > Non Irritant Irritection™ > Non Irritant
<b>Skin Sensitisation</b>	Negative
<b>Aerobic Biodegradation</b>	Ready Biodegradable
<b>Aquatic Toxicity</b>	Non Harmful



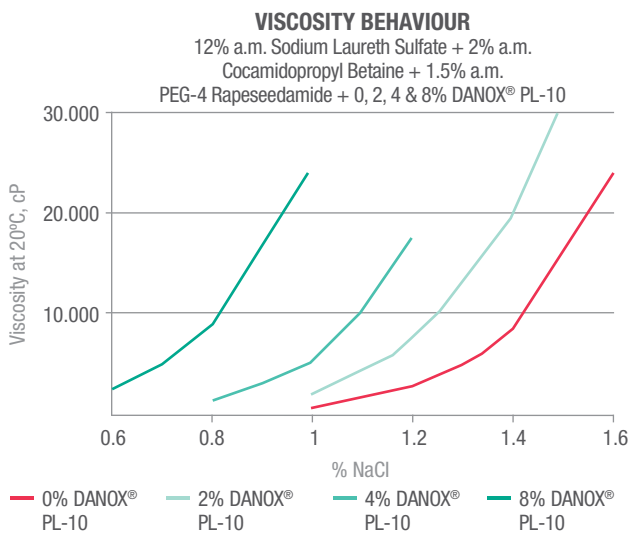


# STABILITY & FOAMING ABILITY

Due to the composition of DANOX® PL-10 a foam-boosting effect can be expected. Foam evaluation of a composition including 4% of DANOX® PL-10 gave a slightly higher foam volume in clean conditions and clearly higher foam volume when sebum was added.

## THICKENING EFFECT

DANOX® PL-10, when included in commonly-used hygiene cosmetic compositions, provides excellent performance, remaining stable at all temperatures tested and giving a silky pearly gloss even at low dosages. The compatibility of DANOX® PL-10 in different cosmetic compositions has been checked, obtaining the same excellent results. DANOX® PL-10 concentration influences on viscosity, less thickening agent is required to achieve the desired viscosity.

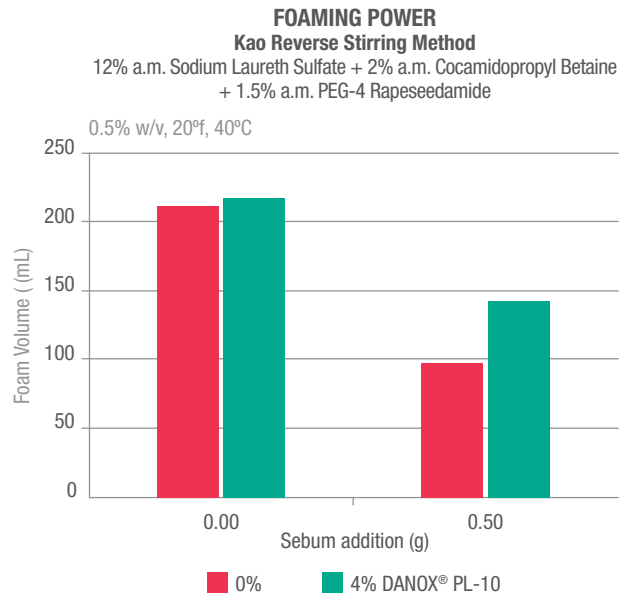


Ref. C-096

### BODY SHAMPOO - MOISTURIZING %

EMAL® 227E Sodium Laureth Sulfate	32.0
AKYPO® SOFT 100 BVC Sodium Laureth-11 Carboxylate	3.0
BETADET® HR Cocamidopropyl Betaine	5.0
BETADET® S-20 Lauryl Hydroxysultaine	3.0
LEVENOL® H&B Glycereth-2 Cocoate	2.0
AMIDET® N PEG-4 Rapeseedamide	1.0
DANOX® PL-10 Pearling Agent	3.0
Additives*	q.s.
Deionized Water	Up to 100

\*Additives: Perfume, dyes, preservatives, etc.



Stability has been checked over a broad range of pHs from 5 to 8 and viscosities between 2000 to 10000 cP, in all cases obtaining stable formulations.

Ref. C-211

### ANTI-DANDRUFF SHAMPOO %

EMAL® 227E Sodium Laureth Sulfate	14.0
AKYPO® FOAM RL 40 Sodium Laureth-5 Carboxylate	5.0
LEVENOL® H&B Glycereth-2 Cocoate	2.5
DANOX® PL-10 Pearling Agent	4.0
EXCEPARL® LM-LC Lauryl Lactate	1.5
TETRANYL® U Undecylenamidopropyltrimonium Methosulfate	0.5
Zinc Pyrithione (50%)	2.0
Dimethicone	0.5
Hydroxypropyl Guar Hydroxypropyl TC	0.1
Polyquaternium-10	0.2
Additives*	q.s.
Deionized Water	Up to 100

# DANOX<sup>®</sup> BF-22

## Create a pearly sheen with Kao sulfate-free pearling agent

DANOX<sup>®</sup> BF-22 is a concentrated pearling product developed by Kao Chemicals Europe for use in sulfate-free cleansing products. Composition is based on Glycol Distearate as the pearling wax and Laureth-4 and Cocamidopropyl Betaine as emulsifiers, providing thickening and foaming properties. DANOX<sup>®</sup> BF-22 is a pearly brilliant fluid paste, easy to handle and disperse in the final formulation at the end of the production process at room temperature, avoiding heating and assuring crystal size control.



<b>INCI Name</b>	Glycol Distearate, Laureth-4, Cocamidopropyl Betaine
<b>CAS Number</b>	91031-31-1, 68439-50-9, 61789-40-0
<b>Appearance (20°C)</b>	Pearled White Fluid Paste
<b>Dry matter (%)</b>	42-45
<b>pH (as it is)</b>	3-4
<b>Viscosity (20°C, cP)</b>	10000 max.

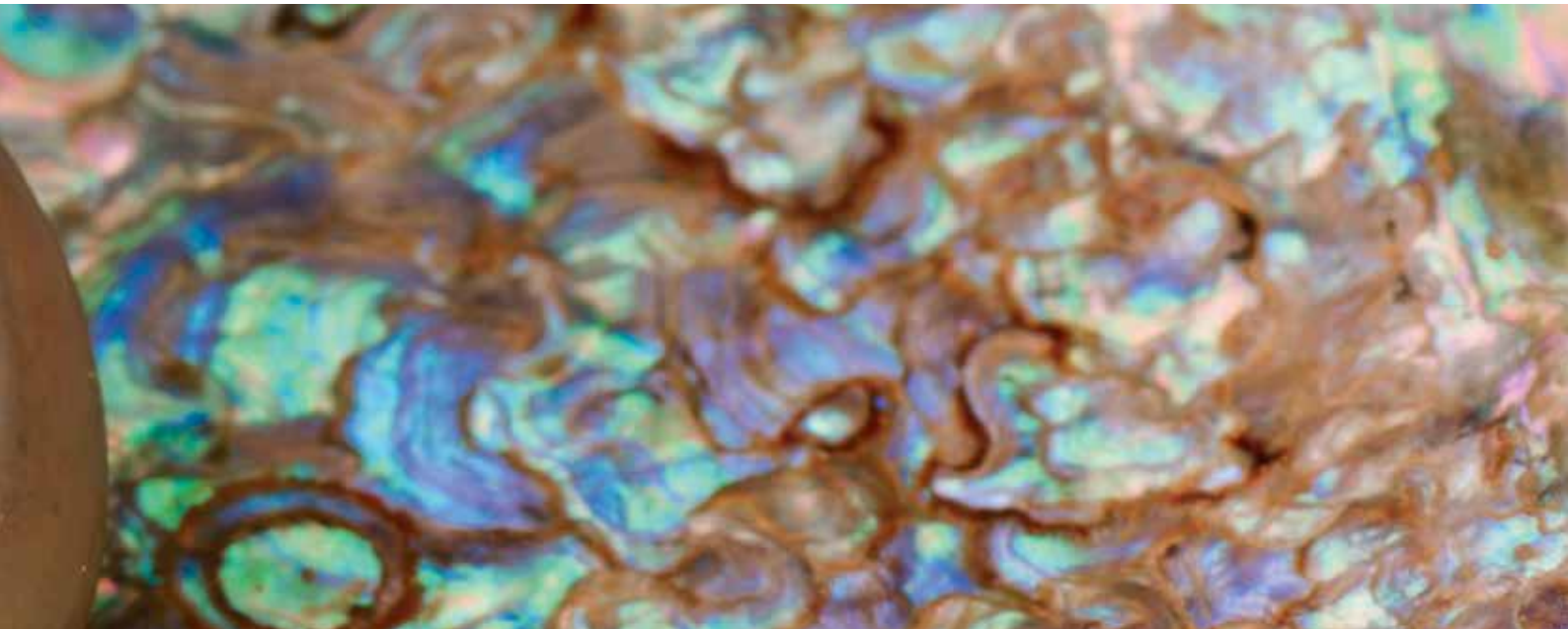
## MAIN FEATURES

- Gives a brilliant white pearly shine appearance
- Excellent opacifying effect
- High pearling wax content
- Low dosage
- Cold-processable
- Easy to handle, pump and disperse
- Improves thickening
- Not tested on animals
- Environmentally friendly

DANOX<sup>®</sup> BF-22 is very mild to the skin and eyes due to the absence of anionic surfactants. Different in vitro tests have been conducted in order to obtain data about its toxicological properties.



<b>Acute Oral Toxicity</b>	Non toxic
<b>Eye Irritation</b>	RBC test > Non Irritant BCOP test > Slightly Irritant
<b>Skin Irritation</b>	Zein test > Non Irritant Irritection <sup>TM</sup> > Non Irritant
<b>Skin Sensitisation</b>	Negative
<b>Aerobic Biodegradation</b>	Ready Biodegradable
<b>Aquatic Toxicity</b>	Non Harmful

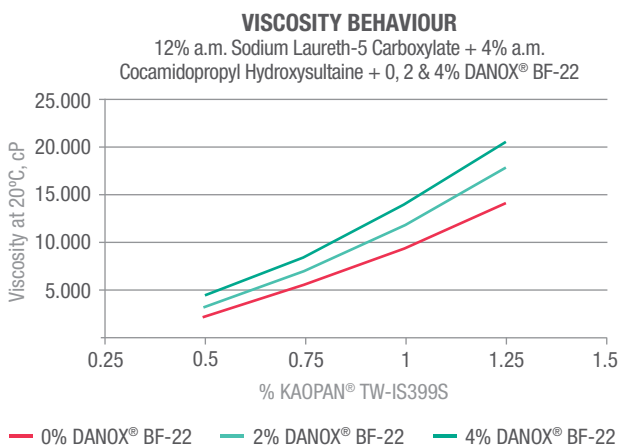


DANOX® BF-22 contains a high content of pearling component (> 20%) and is therefore more effective than other pearling agents at lower concentrations (1-4%) giving an excellent opacifying effect.

DANOX® BF-22 optimal use concentration is 2% to achieve a balanced opacifying and pearling effect.

DANOX® BF-22 is the recommended pearling agent to formulate sulfate-free cleansing cosmetic products.

Compatibility of DANOX® BF-22 has been checked in different cosmetic compositions, obtaining good performance and stability in all of them. In general, it has been observed that less thickening agent is needed to obtain the desired viscosity. In the graph, the influence of DANOX® BF-22 concentration on the viscosity can be observed.



\*Additives: Perfume, dyes, preservatives, etc.

Ref. C-301

### SHOWER GEL-SLES-FREE %

<b>BETADET® HR</b> Cocamidopropyl Betaine	37.1
<b>AKYPO® FOAM RL 40</b> Sodium Laureth-5 Carboxylate	10.0
<b>SUCCIDET® S 30 UK</b> Disodium Laureth Sulfosuccinate	19.3
<b>AMIDET® N</b> PEG-4 Rapeseedamide	4.1
<b>DANOX® BF-22</b> Pearling Agent	3.0
<b>Glycerin</b>	2.4
<b>Additives*</b>	q.s.
<b>Deionized Water</b>	Up to 100

Ref. C-302

### RICH FOAM SHAMPOO %

<b>AKYPO® FOAM LM 25</b> Potassium Laureth-4 Carboxylate	24.4
<b>BETADET® SHR</b> Cocamidopropyl Hydroxysultaine	11.4
<b>KAO SOFCARE® GP-1</b> PPG-3 Caprylyl Ether	1.5
<b>DANOX® BF-22</b> Pearling Agent	3.0
<b>Polyquaternium-10</b>	0.3
<b>Polyquaternium-7</b>	1.0
<b>PEG-7 Dimethicone</b>	1.0
<b>Additives*</b>	q.s.
<b>Deionized Water</b>	Up to 100

# KAO CHEMICALS EUROPE

[www.kaochemicals-eu.com](http://www.kaochemicals-eu.com)



Enriching lives,  
in harmony with nature.

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