

DANOX[®] HC-30

**ENVIRONMENTALLY FRIENDLY
HAIR-CONDITIONING SYSTEM**

**OPTIMIZED COST/CONDITIONING
PERFORMANCE**

**IMPROVED HANDLING FOR SINGLE-STEP
FORMULATION PROCESSES**

NON-FLAMMABLE MATERIAL

**YOUR PARTNER FOR A MORE
SUSTAINABLE AND EFFICIENT
HAIR-CONDITIONING**

KAO'S SURFACTANT TECHNOLOGY APPLIED TO PERSONAL CARE

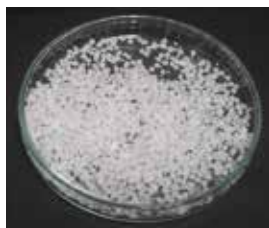


DANOX® HC-30

Cationic system for hair-conditioning

DANOX® HC-30 is a ready-to-use conditioning agent, based on a synergistic combination of cationic surfactants and fatty alcohol that allows a single-step formulation process.

PRODUCT COMPOSITION



Behenamidopropyl Dimethylamine, Dipalmitoylethyl Hydroxyethylmonium Methosulfate, Cetyl Alcohol, Stearyl Alcohol and Lactic Acid.

TECHNICAL DATA

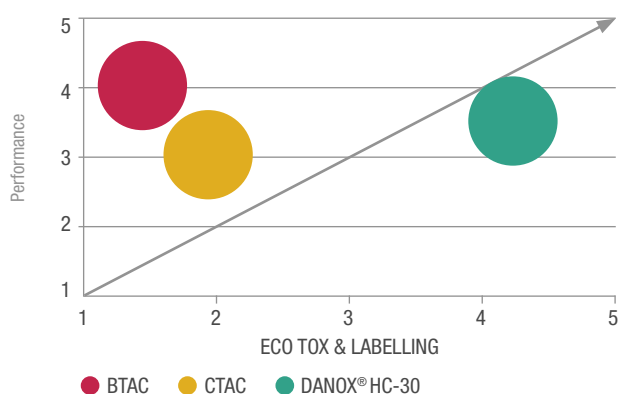
Appearance (20°C)	Yellowish white pellets
Dry matter	100% approx.
Cationic active matter (% Ew=680)	30-34%
Fatty alcohol content	66-70%
Recommended dosage	Between 2.5% and 12%

MAIN FEATURES

- Hair-conditioning system
- Vegetable origin & Environmentally friendly
- Two-in-one product
- Ready to use & Easy to handle
- Optimized performance

GREAT LABELLED TWO-IN-ONE PRODUCT

DANOX® HC-30 is a solid product with no solvent. It is therefore non-flammable and easy to handle, with no storage restrictions. Excellent performance in hair-conditioning can be achieved, while presenting an outstanding eco-toxicological profile. It is biodegradable and non-toxic to aquatic organisms.



DANOX® HC-30 shows better classification and labelling than standard cationic surfactants.

	DANOX® HC-30	CETRIMONIUM CHLORIDE	BEHENTRIMONIUM CHLORIDE
Appearance			
Product	33% Blend of cationics 67% Fatty alcohol	30% Cationic 70% Water	85% Cationic 15% Isopropanol
Labelling	NL		



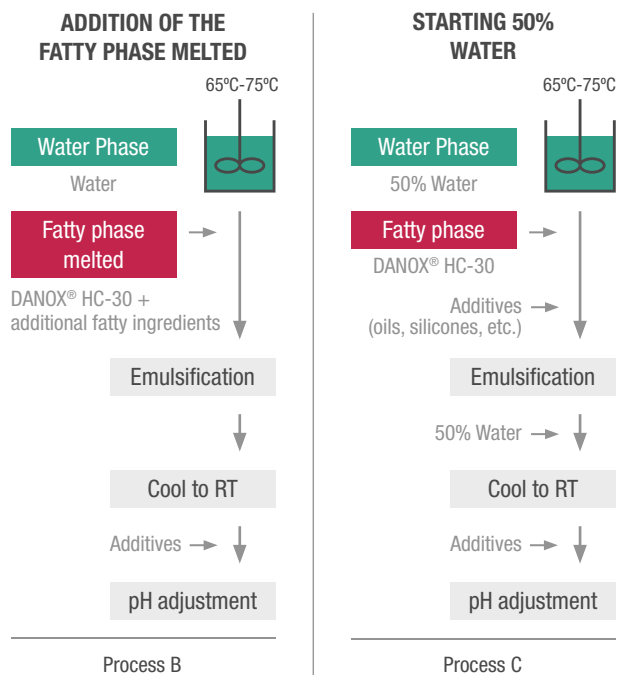
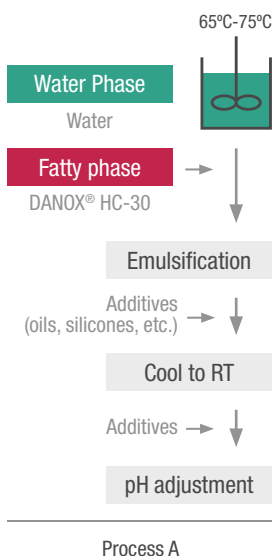
OTHER FORMULATION PROCESSES

DANOX® HC-30 can be formulated in several different conditions while maintaining the performance.

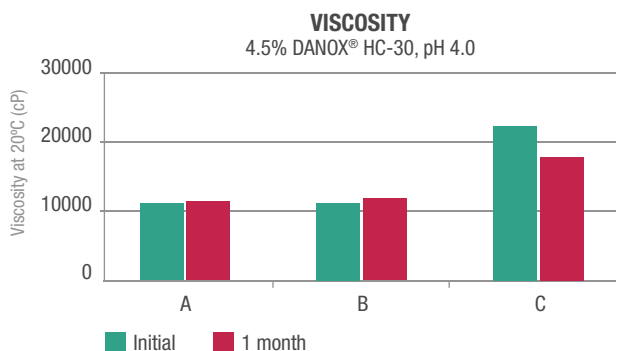
HOW TO WORK WITH DANOX® HC-30

DANOX® HC-30 is an easy-to-handle product in the form of pellets. The recommended formulation process is as follows:

- 1** Heat water up to 65°C - 75°C.
- 2** Add DANOX® HC-30 as it is. Stir until homogeneous (approx. 30 minutes) at high speed but avoiding air incorporation.
- 3** Cool down to room temperature with slower stirring speed.
- 4** Add preservative, fragrance and other additives and adjust pH if necessary. Recommended pH is between 3 and 4.5, to improve performance and formulation's stability.



Depending on the chosen process, a good appearance with different viscosities can be achieved.



PERFORMANCE

TWO-IN-ONE PRODUCT FOR DIFFERENT APPLICATIONS

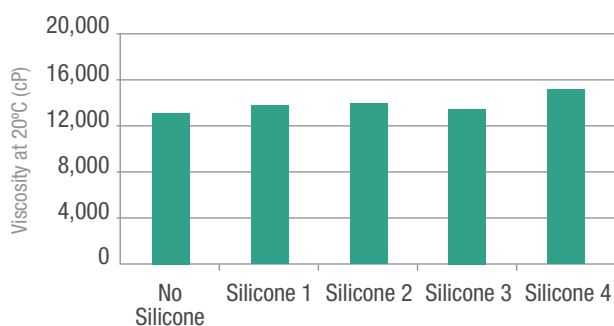
DANOX® HC-30 allows different hair-conditioning products to be prepared. It can be used in a wide range of concentrations, from 2.5% for leave-on conditioners, to 12% for hair masks. Typical concentrations for standard hair conditioners will be between 4% and 8%, depending on the desired viscosity of the final product or the required performance. The most favourable conditioning and stability properties are obtained in a pH range between 3 and 4.5.

DANOX® HC-30 (%)	Application
2.5 - 3.5	Serum
4.0 - 6.0	Regular Hair Conditioners
6.0 - 8.0	Repairing Hair Conditioners
10.0 - 12.0	Hair masks
60.0 - 70.0	Solid Conditioners

COMPATIBILITY

Silicones usually lead to instability of the formulation and reduce the viscosity. DANOX® HC-30 easily incorporates silicones without the addition of further emulsifiers. The formulations obtained are stable and viscous.

EFFECT OF SILICONES
5% DANOX® HC-30 + 1% silicone



Silicone 1: Dimethicone 1000cSt
(100, 350 and 60000cSt also tested with similar results)
Silicone 2: Amodimethicone + CTAC + Trideceth-12
Silicone 3: Bis-Cetearyl Amodimethicone
Silicone 4: Cyclopentasiloxane and Dimethiconol

DANOX® HC-30 is also compatible with polymers, other cationic surfactants, preservatives, fragrances, emulsifiers, extracts, vitamins, humectants and dyes.

Ref. C-254

REPAIRING HAIR CONDITIONER

	%
DANOX® HC-30	4.7
KAO SOFCARE® GP-1 PPG-3 Caprylyl Ether	1.0
Amodimethicone	2.0
Tocopheryl Acetate	0.5
Additives*	q.s.
Deionised water	Up to 100

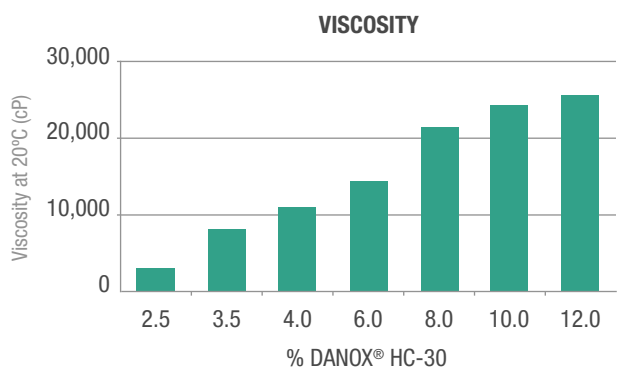
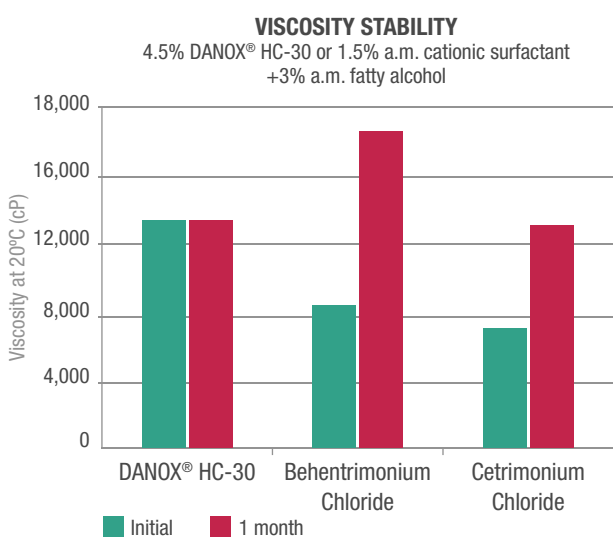
*Additives: pH adjustment, preservatives, fragrance, dyes, etc.



VISCOSITY

DANOX® HC-30 allows higher viscosities to be achieved than with traditional cationic surfactants; in a basic hair conditioner with the same active content, the viscosity obtained with DANOX® HC-30 is much higher than that obtained with BTAC or CTAC. Furthermore, the viscosity of the formulation is much more stable over time with DANOX® HC-30.

Additionally, viscosities can be increased not only by changing the process, but also with the concentration of DANOX® HC-30.



Ref. C-256

HAIR CONDITIONER FOR DAMAGED HAIR

	%
DANOX® HC-30	5.0
KAO SOFCARE® GP-1 PPG-3 Caprylyl Ether	0.5
Dimethicone (60000 cSt)	1.0
Additives*	q.s.
Deionised Water	Up to 100

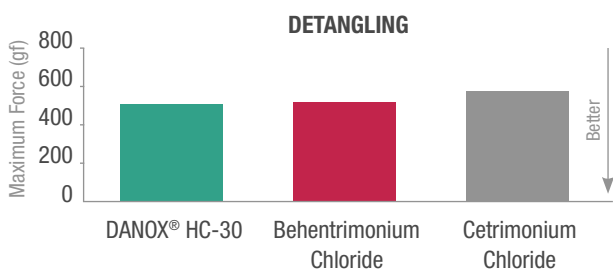
*Additives: pH adjustment, preservatives, fragrance, dyes, etc.

SUITABLE FOR ALL HAIR TYPES

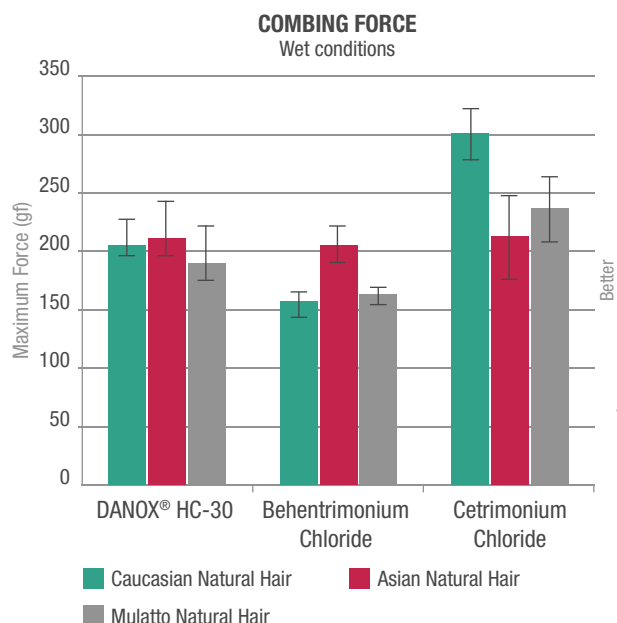
PERFORMANCE

Results obtained from a basic hair conditioner formulation: 4.5% DANOX® HC-30 or 1.5% a.m. cationic surfactant +3% a.m. fatty alcohol.

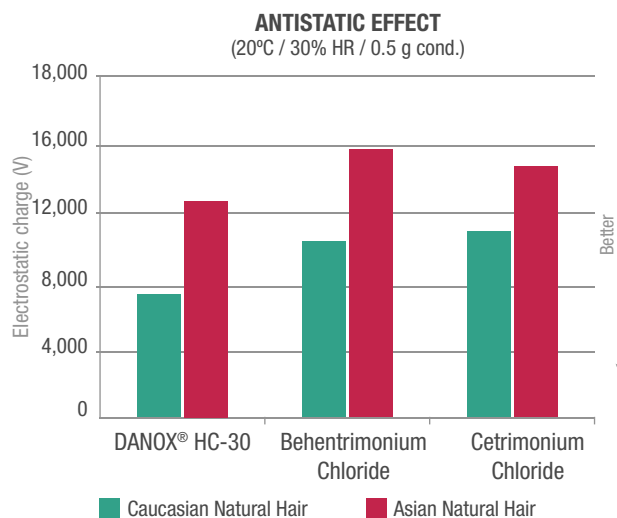
DANOX® HC-30 provides excellent detangling results comparable to Behentrimonium Chloride (BTAC) and better than shorter alkyl chain cationic surfactants like Cetrimonium Chloride (CTAC).

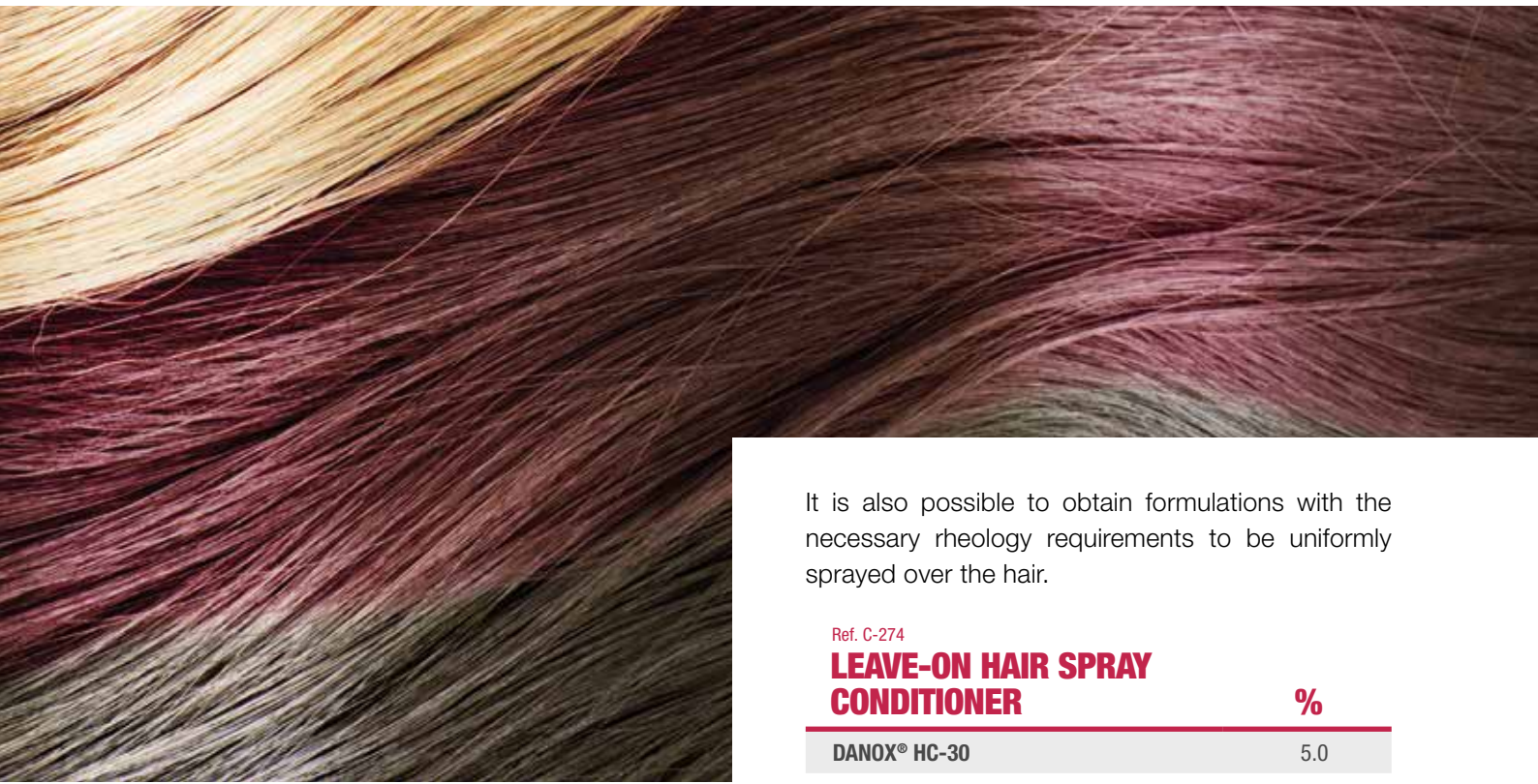


DANOX® HC-30 highly reduces combing forces, making it easier to comb any hair type. Evaluation on different hair types shows a competitive combing force reduction compared to CTAC.



By using DANOX® HC-30 in hair conditioner formulations fly-away can easily be controlled, as higher reduction of electrostatic charge is achieved compared to BTAC and CTAC.





NEW FORMULATION TRENDS

Focusing on the newest trends in the market, DANOX® HC-30 allows not only to very easily formulate excellent hair conditioners, but also to follow the latest market demands such as hair sprays, deep moisturizing masks and cleansing conditioners.

Cleansing conditioners are the new products between washing and conditioning: they wash while preserving the natural oils of the hair, thus protecting it from external damage like sun, heat styling, bleaching or straightening treatments.

Ref. C-273

CLEANSING CONDITIONER %

	%
BETADET® HR Cocamidopropyl betaine	18.4
DANOX® HC-30	12.0
Hydroxypropyl Starch Phosphate Ester	3.0
Glycerin	2.0
KAO SOFCARE® GP-1 PPG-3 Caprylyl Ether	1.0
Additives*	q.s.
Deionized Water	Up to 100

*Additives: pH adjustment, preservatives, fragrance, dyes, etc.

It is also possible to obtain formulations with the necessary rheology requirements to be uniformly sprayed over the hair.

Ref. C-274

LEAVE-ON HAIR SPRAY CONDITIONER %

	%
DANOX® HC-30	5.0
KAO SOFCARE® GP-1 PPG-3 Caprylyl Ether	1.0
EXCEPARL® LM-LC Lauryl Lactate	0.5
Propylenglycol	0.5
Quaternium-80	0.5
Fluid Cyclopentasiloxane	0.5
D-Panthenol	0.5
Additives*	q.s.
Deionized Water	Up to 100

The better stability of the formulations based on DANOX® HC-30 instead of CTAC and BTAC when mixing them with silicones and other ingredients, allows a wider range of formulations to be prepared.

Ref. C-275

DEEP MOISTURIZING MASK %

	%
DANOX® HC-30	10.0
Dimethicone (60000 cSt)	2.0
Argan Oil	1.5
Shea Butter	1.5
Additives*	q.s.
Deionized Water	Up to 100

KAO CHEMICALS EUROPE

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in harmony with nature.

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