

Surfactants with high compatibility and conditioning properties for new ecological formulation concepts

Background Information: Tables & test formulations

Table 1: a comparison with widely used betaine surfactants.

Properties	Cocamidopropyl Betaine	Coco Betaine	GlucoTain®
Readily biodegradable	yes	yes	yes
Renewable carbon index (RCI, %)	63	75	94-95
GHS Labelling	H 412 Harmful to aquatic organisms, long term effect	H 412 Harmful to-aquatic organisms, long term effect	No aquatox label

Fig 4: Test formulations I

Phase	Ingredients	INCI	A (% active)	B(% active)	C(% active)
A	Water	Aqua	To 100	To 100	To 100
	Genapol® LRO liq	Sodium Laureth Sulfate	10.00	10.00	10.00
	Glycerin	Glycerin	3.00	3.00	3.00
B	GlucoTain® Care	Cocoyl Methyl Glucamide	2.00		
	Genagen® CAB 818	Cocamidopropyl Betaine		2.00	2.00
	Lamesoft® PO 65	Coco Glucoside (and) Glyceryl Oleate		1.00	
	Fragrance	Fragrance	0.50	0.50	0.50
C	Water	Aqua	4.00	4.00	4.00
	Sodium Benzoate	Sodium Benzoate	0.45	0.45	0.45
D	Water	Aqua			10.00
	SalCare® Super 7	Polyquaternium-7			0.30
E	Citric Acid	Citric Acid	qs to pH 5.2-5.3	qs to pH 5.2-5.3	qs to pH 5.2-5.3
F	NaCl	Sodium Chloride	2.50	2.50	2.50

Fig 6: Test formulations II

Ingredient	INCI	Reconstruction of Market product	Reformulation 1	Reformulation 2
Water	Aqua	85.0	86.4	87.0
Genapol® LRO liq.	Sodium Laureth Sulfate	7.0	7.0	7.0
NaCl (total)	Sodium Chloride (total)	2.4	2.0	1.4
Glycerin	Glycerin	1.5	1.5	1.5
Deyhton® PK 45	Cocamidopropyl Betaine	1.5	0	0
Hostapon® CLG	Sodium Lauroyl Glutamate	0.5	0	0
Lamesoft® PO 65	Coco Glucoside	0.5	0	0
	Glyceryl Oleate	0.5	0	0
GlucoTain® Flex	Lauryol/Myristoyl Methyl Glucamide	0	2.0	1.0
Genagen® KB	Coco-Betaine	0	0	1.0
Sodium Benzoate/Potassium Sorbate/Citric acid/Fragrance	Sodium Benzoate/Potassium Sorbate/Citric acid/Fragrance	0.2/0.2/0.2/0.5	0.2/0.2/0.2/0.5	0.2/0.2/0.2/0.5
	pH value	5.5	5.5	5.5
	Viscosity (Brookfield, 25°C)	4830	4400	6200