

Formula # 2

<u>Ingredients</u>	<u>% w/w</u>
D.I. Water	to 100 %
Calfoam [®] ES-302 (Sodium laureth sulfate)	35.0
Caltaine [®] C-35 (Cocamidopropyl betaine)	15.0
Glycerin	3.5
Sodium Chloride	1.5
Preservatives, Perfume, Dyes	As required
Citric Acid	to pH 5.5

Procedure: Add all ingredients in the order listed with continuous mixing. Mix well after each ingredient has been added until the batch is clear, smooth, homogenous and free of lumps or particles. Mix well again after all ingredients have been added.

Viscosity @ 72^o F (without perfume and preservatives) 30,000 cp.*

Formula # 2 contains betaine (Caltaine C-35), an amphoteric surfactants which will reduce the irritation potential of the formula. The formula also has glycerin for nicer feel and moisturization.

Formula # 3

<u>Ingredients</u>	<u>% w/w</u>
D.I. Water	to 100 %
Calfoam [®] ES-302 (Sodium laureth sulfate)	35.0
Caltaine [®] C-35 (Cocamidopropyl betaine)	15.0
Glycerin	3.5
Calamide [®] MC(Cocamide MEA)	1.5
Sodium Chloride	1.0
Preservatives, Perfume, Dyes	As required
Citric Acid	to pH 5.5

Procedure: Add all ingredients **up to** Glycerin in the order listed with continuous mixing. Heat the batch to 70^o C, and then add Calamide MC and Sodium Chloride. Continue mixing. Cool to room temperature, add Preservatives, Perfume, and Dyes then adjust the pH with Citric Acid. Mix well after each ingredient has been added until the batch is smooth, homogenous and free of lumps or particles. Mix well again after all ingredients have been added.

Viscosity @ 72^o F (Without perfume and preservatives) 56,000 cp.*

Amides provide the foam stability and viscosity building properties to the body wash formulas. In Formula # 3 we have added Calamide MC (Cocamide MEA) for this purpose.

Formula # 4

<u>Ingredients</u>	<u>% w/w</u>
D.I. Water	to 100 %

Calfoam [®] ES-302	(Sodium laureth sulfate)	30.0
Caltaine [®] C-35	(Cocamidopropyl betaine)	10.0
Calinate [®] LE	(Disodium laureth Sulfosuccinate)	20.0
Sodium Chloride		3.0
Preservatives, Perfume, Dyes		As required
Citric Acid		to pH 5.5

Procedure: Add all ingredients in the order listed with continuous mixing. Mix well after each ingredient has been added until the batch is smooth, homogenous and free of lumps or particles. Mix well again after all ingredients have been added.

Viscosity @ 72° F (without perfume and preservatives)* 23,000 cp.

Sulfosuccinates are mild anionic surfactants that produce creamy lather. This formula was developed using Calinate LE (Disodium laureth Sulfosuccinate) for added mildness.

Formula # 5

<u>Ingredients</u>		<u>% w/w</u>
D.I. Water		to 100 %
Calfoam [®] ES-302	(Sodium laureth sulfate)	20.0
Caltaine [®] C-35	(Cocamidopropyl betaine)	20.0
Coco-Glucoside		20.0
Calamide [®] MC	(Cocamide MEA)	2.0
Sodium Chloride		1.0
Preservatives, Perfume, Dyes		As required
Citric Acid		to pH 5.5

Procedure: Add all ingredients **up to Coco-Glucoside** the order listed with continuous mixing. Heat the batch to 70° C, and then add Calamide MC and Sodium Chloride. Continue mixing. Cool to room temperature, add Preservatives, Perfume, and Dyes then adjust the pH with Citric Acid. Mix well after each ingredient has been added until the batch is smooth, homogenous and free of lumps or particles. Mix well again after all ingredients have been added.

Viscosity @ 72° F (without perfume and preservatives)* 3, 500 cp.

Alkyl Polyglucosides are mild, naturally derived surfactants and provide good foaming. This formula uses a Coco-Glucoside for that purpose.

Formula # 6

<u>Ingredients</u>		<u>% w/w</u>
D.I. Water		to 100 %
Calfoam [®] ES-302	(Sodium laureth sulfate)	30.0
Caltaine [®] C-35	(Cocamidopropyl betaine)	20.0
Potassium cocoyl glycinate		10.0
Calamide [®] MC	(Cocamide MEA)	2.0

Sodium Chloride	1.5
Preservatives, Perfume, Dyes	As required
Citric Acid	to pH 5.5

Procedure: Add all ingredients **up to Potassium cocoyl glycinate** in the order listed with continuous mixing. Heat the batch to 70^o C, and then add Calamide MC and Sodium Chloride. Continue mixing. Cool to room temperature, add Preservatives, Perfume, and Dyes then adjust the pH with Citric Acid. Mix well after each ingredient has been added until the batch is smooth, homogenous and free of lumps or particles. Mix well again after all ingredients have been added.

Viscosity @ 72^o F (without perfume and preservatives)* 80,000 cp.

The amino acid based surfactants tend to leave the skin fresh and soft. Potassium Cocoyl Glycinate is very mild and hypoallergenic. It produces soft, creamy lather.

Formula # 7

<u>Ingredients</u>	<u>% w/w</u>
D.I. Water	to 100 %
Calfoam [®] ES-302 (Sodium laureth sulfate)	40.0
Caltaine [®] C-35 (Cocamidopropyl betaine)	15.0
Sodium Cocoamphoacetate	15.0
Sodium Chloride	1.5
Preservatives, Perfume, Dyes	As required
Citric Acid	to pH 5.5

Procedure: Add all ingredients in the order listed with continuous mixing. Mix well after each ingredient has been added until the batch is smooth, homogenous and free of lumps or particles. Mix well again after all ingredients have been added.

Viscosity @ 72^o F (without perfume and preservatives)* 27,000 cp.

Amphoteric surfactants like sodium Cocoamphoacetate are good foaming, mild surfactants with low skin irritation properties.

***All viscosity measurements were made using Brookfield digital viscometer DV-1 Spindle # 3 was used in most cases at an speed that gives 50% - 80% torque reading, as recommended by Brookfield Engineering.**

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