

COLA[®]LIPID C

Coconut-Derived Phospholipid

CTFA/INCI Name: Cocamidopropyl PG-Dimonium Chloride Phosphate
CAS # 83682-78-4 EINECS # 280-518-3

DESCRIPTION

Cola[®]Lipid C, chemically described as Cocamidopropyl Phosphatidyl PG-Dimonium Chloride, is a coconut oil derived phospholipid composed predominantly of diester and triester phosphatides with multiple chain groups. In addition to topically simulating the properties displayed by the polar stratum corneum lipids, Cola[®]Lipid C displays a broad range of functional attributes including gentle cleansing and foaming properties, anti-irritation effects when combined with anionic surfactants, unusually high substantivity, long lasting skin conditioning, and broad spectrum antimicrobial activity. Due to the ampholytic character of Cola[®]Lipid C, it is compatible with practically all other types of ingredients including anionic surfactants.

Because Cola[®]Lipid C possesses this unique combination of properties and is virtually non-irritating to skin and eyes, it is an ideal ingredient for baby care products, sensitive skin cleansers and other personal care and health care products.

ANTIMICROBIAL PROPERTIES

Cola[®]Lipid C can be used to reduce or eliminate the use of classical preservatives to achieve self-preservation strategies with improved skin health benefits. Its performance is not adversely affected by solution pH, anionic or nonionic surfactants, or typical preservative deactivators.

Test Organism	ATCC	Type Number	Minimum Inhibitory Concentration (active ppm)
Staphylococcus aureus	6538	Gram +	141
Staphylococcus epidermidis	14409	Gram +	141
Streptococcus faecalis	6569	Gram +	141
Bacillus subtilis	6633	Gram +	71
Bacillus cereus	11778	Gram +	71
Micrococcus luteus	4698	Gram +	141
Escherichia coli	8739	Gram -	24
Proteus mirabilis	9921	Gram -	24
Pseudomonas aeruginosa	15442	Gram -	141
Pseudomonas cepacia	25608	Gram -	71
Pseudomonas stutzeri	17591	Gram -	71
Salmonella choleraesuis	10708	Gram -	588
Enterobacter aerogenes	13048	Gram -	588
Klebsiella pneumoniae	13883	Gram -	588
Aeromonas hydrophila	9071	Gram -	24
Candida albicans	10259	Yeast	376
Aspergillus niger	6275	Mold	294
P. expansum	1117	Mold	36
Aspergillus oryzae	10196	Mold	2350
Cephalosporium species	12285	Mold	71

TYPICAL FORMULATIONS**Baby Wipe**

	<u>% by weight</u>
Cola [®] Lipid C	1.0
Malic Acid	0.4
Water	<u>98.6</u>
	100.0

Sensitive Skin Cleanser

	<u>% by weight</u>
Cola [®] Lipid C	2.5
Cola [®] Teric CDCX 50	12.0
Colonial SLES-2	28.0
Water	<u>57.5</u>
	100.0

Procedure: Add ingredients, adjust pH to 5.5

Procedure: Add ingredients, adjust pH 5.5-6.0

TYPICAL PROPERTIES

Appearance	Clear Yellow Liquid
pH (10% Solution)	7.0
Specific Gravity (25°C)	1.03
% Total Solids	47.0

TOXICOLOGICAL PROPERTIES**Dermal (5% in water)**

48 Hour Occluded Human Patch - 50 Test Subjects

48/50 Completely Non-Irritating

2/50 Barely Perceptible Erythema

Ocular (3% in water)

In Vitro Int. Eytex Rapid Membrane Assay

Classification Minimal/Mild

Sensitization (5% in water)

Repeated Insult Occluded Patch - 50 Test Subjects

No evidence of induced allergic contact dermatitis in humans

Cola[®]Lipid C is approved for use under CFR.21,176.210.

TEST RESULTS FOR SUSTAINED ANTIMICROBIAL ACTIVITY ON FIBER*

Procedure: Swatches of an air-laid cellulosic / cotton blend were exposed to the test material by dipping into the test solution and blotting to remove excess moisture. Imprints were then made on seeded agar plates (inoculated with *S. Epidermidis*). The swatches were then rinsed and blotted to remove excess moisture. A series of four rinsings and imprints were made, including the initial exposure and imprint. The degree of residual activity / fiber substantivity was determined by the clarity of the zone of inhibition to microbe growth surrounding the imprints and the seeded agar plates as compared to the untreated controls. The grading system used to record the data obtained is as follows:

<u>Grade</u>	<u>Antimicrobial activity</u>
0	No control of microbial growth
1	Slight
2	Moderate
3	Good
4	Excellent control of microbial growth

Swatch (2x2 cm)	1% test material as supplied	3% test material as supplied
Initial exposure	4.0	4.0
Rinse 1	4.0	4.0
Rinse 2	3.0	3.3
Rinse 3	2.7	2.8
Untreated control	0.3	0.3

TEST RESULTS FOR SUSTAINED ANTIMICROBIAL ACTIVITY ON SKIN*

Procedure: Individual fingers of selected panelists were washed twice, blotted to remove excess moisture, and exposed to the test material. Finger imprints were then made on seeded agar plates (inoculated with *S. Epidermidis*), after which the individual fingers were rinsed and blotted. A series of three rinsings and four imprints were made, including the initial exposure and imprint. The degree of residual antimicrobial activity on the skin was determined by the clarity of the zone of inhibition to microbial growth surrounding the imprints on the seeded agar plates. The grading system used to record the data is identical with that described above.

	Control Soap only	3% test material as supplied	5% test material as supplied
Initial exposure	2.0	4.0	4.0
Rinse 1	1.6	2.6	3.0
Rinse 2	1.0	2.0	2.3
Rinse 3	1.3	1.3	2.0
Untreated	1.3	1.3	1.3

* As reported in *Cosmetics and Toiletries Manufacture Worldwide*, 1994

Last Modified 07/14/2006

WARRANTY

Colonial Chemical guarantees that its products meet published specifications. No other warranties or guarantees are expressed or implied because the use of this material is beyond the control of Colonial Chemical.