Cola®Lipid GS

Naturally-Derived Biomimetic Phospholipid

INCI NAME Sodium Grapeseedamidopropyl PG-Dimonium Choride Phosphate
CAS NUMBER 83682-78-4
LISTINGS US (Cosmetic use only); Canada (DSL)

Cola®Lipid GS is multifunctional, natural triglyceride organic phospholipid complex. It is designed to mimic natural phospholipids that occur naturally in the body and deposits its essential fatty acids on skin. Cola®Lipid GS is derived from sustainable pure grapeseed oil and is highly substantive to hair and skin. The flavonoid oligomeric procyanidin found in grapeseed oil is an incredibly strong antioxidant, about 50 times stronger than antioxidants like vitamin C and E, and can provide protection against cellular and tissue damage caused by free radicals. By taking advantage of this oil's unique composition, Cola®Lipid GS offers a combination of performance properties for personal and health care applications rarely achieved with one single ingredient.

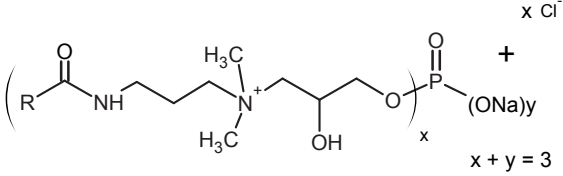
APPLICATIONS

Cola®Lipid GS is non-irritating to the eyes and skin and reduces irritation of anionic activity and can be used in a variety of personal care products, including:

- Creams, lotions, shower gels, facial washes
- Hair care products such as conditioners, shampoos, hair tonics & creams
- Pre- and post-sun care creams, lotions, gels
- Foundations, lipsticks, lip balms
- Health care products
- Baby products

TYPICAL PROPERTIES / STRUCTURE

Appearance	Clear to hazy liquid
pH (10% IPA/H_2O)	7.5
Solids, %	30.0
Color, Gardner '98	4 Max.



R Group = Grapeseed fatty acids

ANTIOXIDANT BENEFITS FROM A FUNCTIONAL SURFACTANT

Background

Grapeseed oil is pressed from grapes and is a by-product of winemaking. It is especially high in ω-6 fatty acid, typically containing approximately 70% linoleic acid. It also contains up to 1.5% of unsaponifiable matter, including tocopherols and steroids. These compounds are of interest because they have the potential to provide added skin health benefits when the oil is converted to a surfactant. Grape seed extracts have been shown to have a variety of benefits, especially protection from oxidative stress. The Cola®Lipid line of multi-functional surfactants includes the grapeseed oil derivative Cola®Lipid GS, which was tested for its ability to function as an antioxidant via the ORAC test.

Method

Cola®Lipid GS was tested against an ORAC 6.0 panel which measures efficacy against different reactive oxygen species (ROS). Results are reported in µmol TE/g, where TE=Trolox equivalency, where Trolox is used as the test reference standard. Those in the panel that that demonstrated antioxidant activity were:

Analysis	*Result*
ORAC against hydroxyl radicals	170.60
ORAC against peroxynitrite	0.24

These results indicate a very high efficacy against hydroxyl radicals and a smaller, but significant, efficacy against peroxynitrite, demonstrating that Cola®Lipid GS has a high likelihood of being effective as an antioxidant in a variety of skin care applications

ADDITIONAL TESTING

Eye Irritation

MatTek Epi-Ocular: In vitroepidermal keratinocytes: Results indicate 'non-irritating' classification

Acute Skin Irritation

48 Hour Occlusive skin patch test: On human volunteers - 53 Test Subjects: no visible skin reaction, no potential for dermal irritation

Skin Sensitization

Repeat Insult Patch testing (HRIPT): no potential for dermal irritation or allergic contact sensitization

Biodegradability

OECD 301 (301D) Ready biodegradability test in an aerobic aqueous medium: Sample exceeds 75% biodegradability requirement in 14 days

Conditioning Hair Mask No. 1032

Deep conditioning hair mask that nourishes and soothes hair and scalp. While locking in moisture, it enhances smoothness and protects against pollution. Use for periodic deep-conditioning.

	TRADE NAME / INCI NAME	%
1	Water	qs to 100.00
2	Natrosol™ Plus 330CS / Cetyl Hydroxyethylcellulose	0.20
3	N-Hance™ 3215 / Hydroxypropyl Guar Hydroxypropyl Trimonium Chloride	0.20
4	***Poly Suga®Quat S1210P*** / Polyquaternium-81	8.00
5	***Cola®Lipid GS*** / Sodium Grapeseedamidopropyl PG-Dimonium Chloride Phosphate	1.00
6	***Cola®Moist 200*** / Hydroxypropyl Bis-Hydroxyethyldimonium Chloride	1.00
7	Lanette O / Cetearyl Alcohol	5.00
8	Oud Fragrance	0.20
9	Microcare® SB / Sodium Benzoate and Potassium Sorbate	0.50

PROCEDURE:

Combine ingredients 1 – 3, hydrating per manufacturer's instructions. Begin heating to 65°C. Once completely hydrated, add ingredients 4 – 6. At 65°C, add ingredient 7 and mix until completely melted. Homogenize and cool to 50 – 55°C. Add remaining ingredients and cool to room temperature.

TYPICAL PROPERTIES:

Appearance: Opaque Liquid
pH: 5.0 – 5.5
Viscosity: 150,000 cP

Readily biodegradable per OECD 301 methods. This product meets the criteria for a surfactant under the EU Detergents Regulation (EC) 648/2004.

Body Wash Crème No. 2034

Creamy body wash formulated to moisturize, smooth, and nourish dry skin for an all-day clean. Works great as a soothing shave lotion.

	TRADE NAME / INCI NAME	%
A	Water	qs to 100.00
A	***Cola®Det OE*** / Sodium Laureth Sulfate, Sodium Tridecyl Ether Sulfate, Sodium Lauroamphoacetate, Lauramide MIPA	20.00
A	***Cola®Lipid GS*** / Sodium Grapeseedamidopropyl PG-Dimonium Chloride Phospha	2.00
A	***Cola®Moist 200*** / Hydroxypropyl Bis-Hydroxyethyldimonium Chloride	1.00
B	Soybean Oil / Glycine Soja (Soybean) Oil	18.00
B	Marula Oil / Sclerocarya Birrea (Marula) Oil	2.00
B	Shea Butter / Butyrospermum Parkii (Shea Butter)	0.50
B	N-Hance™ 3215 / Hydroxypropyl Guar Hydroxypropyl Trimonium Chloride	0.50
B	Cosphaderm® X34 / Xanthan Gum	0.60
C	Vanilla Fragrance	0.20
C	Microcare® SB / Sodium Benzoate and Potassium Sorbate	1.00
C	Citric Acid	qs to pH

PROCEDURE:

Combine ingredients for Phase A and Phase B in separate vessels. Add Phase B to Phase A with high shear mixing, if possible, taking care to not introduce air. Heat to 40°C and add Phase C ingredients. Adjust pH to 5.0 – 5.5 with citric acid. Mix for 60 minutes.

TYPICAL PROPERTIES:

Appearance: Opaque Viscous Liquid
pH: 5.0 – 5.5
Viscosity: 20,000 cP

Cola®Lipid GS is **"Derived Natural"** with a **Natural Origin Index of 0.91** in accordance with **ISO 16128** guideline.

Cola®Lipid GS contains 91% USDA certified biobased content.

STORAGE / HANDLING

Cola®Lipid GS should be stored in closed containers. Shipped in 55 gallon poly drums (net weight 480 lb/217.7 kg). Typical shelf life is 12 months from date of manufacture. Safety Data Sheets are found at ***www.colonialchem.com***.

Colonial Chemical
Innovative Specialty Surfactants
www.colonialchem.com

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