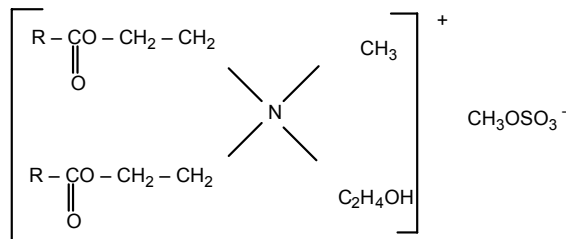


Product Bulletin

Product
Name

Chemical
Structure

STEPANQUAT® GA-90



R = Partially Hydrogenated Palm

Chemical
Description

Dipalmitoylethyl Hydroxyethyl Ammonium Methosulfate in Isopropanol

CAS
Registry No.

157905-74-3

INCI Name

Dipalmitoylethyl Hydroxyethylmonium Methosulfate

Applications

Functional Properties

- Conditioning Agent
- Primary Emulsifier
- Film former (for improved water repellency and water resistance in skin creams and lotions)

End Product Uses

- Hair Conditioners
- Creams and Lotions

Typical
Properties

Appearance at 25°C.....	White, soft paste	Flash Point, °C (°F).....	35 (95)
Appearance at 40°C.....	Clear liquid	Melting Point, °C (°F).....	39 (102)
Actives, %.....	90	Solvent.....	Isopropanol
pH, 5% in 50/50 D.I. Water/IPA.....	3.0	Color, Gardner.....	3
RVOC, U.S. EPA, % Isopropanol.....	10		

Biodegradability

Product is readily biodegradable. Additional information is available upon request.

Toxicity

STEPANQUAT GA-90 is practically non-toxic orally (LD₅₀>5 g/kg), causes mild skin irritation and is minimally irritating to eyes at 10% active. STEPANQUAT GA-90 is not a skin sensitizer.

Storage &
Handling

STEPANQUAT GA-90 should be handled with care and used away from sparks and open flame because it is flammable. Use in a well ventilated area. Contact with the eyes and prolonged contact with the skin should be avoided. Use gloves and safety goggles when handling STEPANQUAT GA-90.

It is recommended that STEPANQUAT GA-90 be stored in sealed containers and kept in a cool, dry place at temperatures between 40°F (4.4°C) and 120°F (49°C). Avoid overheating or freezing. Avoid sparks, fire or open flames. Equipment should be grounded when transferring or using material.

Bulk Storage Information: STEPANQUAT quaternaries can be stored in vessels of 316 stainless steel or fiberglass with a corrosion liner. Contact between quaternaries and anionic materials, soap and sulfated oils must be avoided. STEPANQUAT quaternaries should be stored below 120°F (49°C). An internal hairpin coil of 316 stainless steel with low pressure steam (under 50 psig) should be used if heating is required. Pumps, pipes and transfer lines should be 316 stainless steel.

Standard Packaging: STEPANQUAT GA-90 is available in 55 gallon drums (net weight 400 lb/182 kg).

Clearances

All components of STEPANQUAT GA-90 are listed in the following countries; the registration numbers for the active ingredients are included in parentheses; United States (TSCA 157905-74-3), Europe (EINECS 295-344-3), Canada (DSL 157905-74-3), Australia (AICS 91995-81-2), China (IECSC, 2003), Korea (ECL 97-3-855) and New Zealand (NOTS 91995-81-2). Both CAS 157905-74-3 and CAS 91995-81-2 accurately describe the chemistry of this product.

STEPANQUAT GA-90 is available as Kosher Certified.

STEPANQUAT® and STEPAN® are registered trademarks of Stepan Company.



Formulations

PREMIUM HAIR CONDITIONER WITH SILICONE

Ingredients	Wt. % (as is)	Function
1. D.I. Water	q.s. to 100.0	Solvent, Carrier
2. Stearamidopropyl dimethyl amine	0.50	Emulsifier, Stabilizer
3. STEPANQUAT GA-90	2.22	Conditioning Agent
4. STEPAN® CETYL ALCOHOL, NF	3.00	Emulsifier, Thickener
5. Potassium Chloride	0.30	Opacifier, Thickener
6. Cyclomethicone	2.00	Conditioning Agent
7. Cationic Emulsion 929 (35%)	5.71	Conditioning Agent
8. Citric Acid (50%)	q.s.	pH Modifier
9. Sodium Hydroxide (50%)	q.s.	pH Modifier
10. Fragrance, dye, preservative	q.s.	Additives

Mixing Procedure:

Into a suitable vessel equipped with heating, cooling, and agitation, add item 1. Begin to mix, heat to 70-75°C (158-167°F). Add items 2, 3 and 4. Emulsify for 30 minutes and maintain the temperature between 70-75°C (158-167°F). Cool to 38-48°C (100 - 118°F). Add item 5 dissolved in water. Mix well. Add items 6 and 7. Adjust pH to 3.5 - 4.5 with items 8 or 9 if necessary. Cool to ambient temperature with continuous agitation. Add fragrance, dye and preservative, as desired.

Physical Properties:

Appearance at 25°C Thick, opaque lotion
pH (as is) 3.5 - 4.5

ALL PURPOSE SKIN CREAM

Ingredients	Wt. % (as is)	Function
1. D.I. Water	q.s. to 100.0	Solvent, Carrier
2. Glycerin USP	4.00	Humectant
3. STEPANQUAT GA-90	3.50	Emulsifier, Conditioning Agent
4. Petrolatum USP	4.00	Emollient
5. STEPAN IPP	3.00	Emollient
6. Dimethicone	1.00	Emollient
7. STEPAN CETYL ALCOHOL, NF	2.00	Emulsifier, Thickener
8. Potassium Chloride	0.40	Opacifier, Thickener
9. Citric Acid (50%)	q.s.	pH Modifier
10. Sodium Hydroxide (50%)	q.s.	pH Modifier
11. Fragrance, dye, preservative	q.s.	Additives

Mixing Procedure:

Into a suitable vessel equipped with heating, cooling, and agitation, prepare the water phase by adding items 1, 2 and 3. Begin to mix and heat to 70-75°C (158-167°F). Into a separate vessel, prepare the oil phase by adding items 4, 5, 6 and 7. Heat to 70-75°C (158-167°F) with continuous mixing. Add the oil phase to the water phase with good mixing. Agitate for 20-30 minutes. With constant mixing, cool to 43°C (110°F). If necessary, adjust pH to 4.0 - 4.5 with items 9 or 10. Add item 8 dissolved in water. Add fragrance, dye and preservative, as desired. At 38°C (100°F) homogenize the product and cool to room temperature.

Physical Properties:

Appearance at 25°C Thick, opaque lotion
pH (as is) 4.0 - 4.5

A Material Safety Data Sheet is available upon request.

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Stepan

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