



ELSURFAC - CDN85™ (Coconut Diethanolamide (CDEA))

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	Viscous yellow to amber liquid
Odor	Mild, characteristic fatty odor.
Density / Specific Gravity	0.9981 - 1.003 @ 20 - 25 °C
Viscosity	3000 - 6000 cP at 25 °C
Refractive Index	1.4697-1.4816
pH (aqueous solution)	9.0 (1% solution)
Assay / Purity	≥ 85%
HLB Value	12.56
HLB Comparison	Cocamide DEA: 12.56 Cocamide MEA: 13.5 Lauramide DEA: 15 ± 1 Linoleamide DEA: 10 ± 1
Authoritative Data (Provided)	
CAS Number	68603-42-9
Molecular Formula	C ₁₁ H ₂₃ CON(CH ₂ CH ₂ OH) ₂
Description	DEA 85% is a versatile chemical compound, primarily used as a surfactant and foam booster in various applications. It is derived from coconut oil and diethanolamine, and its key function is to improve the foaming and cleaning properties of products like shampoos, detergents, and industrial cleaners.
Known Applications	Shampoos & Hair Care, Liquid Hand Wash & Body Wash, Detergents & Cleaners, Soaps & Cosmetics, Industrial Applications
Density	~0.99 g/cm ³
Chemical Properties	
Ionic Nature	Non-ionic.
Incompatibilities	Incompatible with strong, concentrated oxidizing agents.
Hazardous Reactions / Decomposition Products	Under fire conditions, may produce carbon oxides (carbon monoxide, carbon dioxide).
Thermal Properties	

Property	Specification
Melting Point	< 10 °C
Boiling Point	> 200 °C (decomposes)
Flash Point	93.89 - 137 °C
Autoignition Temperature	662 °C
Thermal Stability	Stable under ordinary conditions.
Solubility	
Solubility in Water	Soluble. Dispersible.
Solubility in Ethanol	Soluble.
Solubility in Oil	Soluble.

2. Processing Methods

Economic Liquid Hand Soap

This formulation produces a high-performance liquid hand soap with good washing properties and a thick, pleasant foam. Combine ingredients of phase A and mix until uniform. Add phase B ingredients and mix. Finally, add Sodium Chloride while mixing to thicken. Control final viscosity and pH.

Key Ingredients	Indicative Dosage (% w/w)
Water	to 100
Sodium Laureth Sulfate (and) Cocamidopropyl Betaine (and) Coco-Glucoside	8.0
Sodium Benzoate, Potassium Sorbate	0.5
Betaine	0.5
Lactic Acid	0.15
Coconut Diethanolamide (CDEA)	0.5
Fragrance	0.5
Colorants	q.s.
Sodium Chloride	2.5



Moisturizing Shampoo

A typical moisturizing shampoo formulation where Coconut Diethanolamide acts as a thickener and foam stabilizer. Disperse Polyquaternium-7 in water. Add remaining ingredients of Phase A and heat to 70-75°C. In a separate vessel, combine and heat Phase B ingredients to 70-75°C. Add Phase B to Phase A with mixing. Cool to 40°C and add Phase C ingredients. Adjust pH to 5.5-6.0 with Citric Acid solution. Viscosity can be increased with a 10% Sodium Chloride solution.

Key Ingredients	Indicative Dosage (% w/w)
Water	q.s. to 100
Polyquaternium-7	0.05
Sodium Laureth Sulfate	35.00
Disodium Laureth Sulfosuccinate	5.00
Coconut Diethanolamide (CDEA)	3.00
Glycol Distearate	1.50
Preservative	q.s.
Fragrance	q.s.
Citric Acid (25% solution)	to pH 5.5-6.0
Sodium Chloride (optional)	q.s. for viscosity

3. Dosing by Application

Application	Recommended / Max Dosage
Shampoos	1 - 10%
Shampoos	2 - 3%
Body Washes / Bubble Baths	5 - 10%
Body Washes / Bubble Baths	3 - 4%
Liquid Hand Soaps	2 - 3%
Hair Conditioners	1 - 10%
Face, Body & Hand Skin Care	1 - 5%
Detergents / Industrial Cleaners	4 - 5%
Cosmetics (e.g., Lipstick)	1 - 5%

The information and data contained herein are believed to be accurate but may not be all inclusive and should only be used as a guide. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the product for his particular use and on condition that they assume the risk of the use thereof.



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