

Technical Data Sheet



Specifications

Sodium Cocoyl Glutamate

INCI: Sodium Cocoyl Glutamate

Grades: Liquid (25–30% active) and Powder ($\geq 95\%$ active)

Composition: Mild anionic amino acid surfactant from natural fatty acids and sodium glutamate

Certifications: COSMOS Approved, RSPO (Mixed), REACH; certificates available on request

Packaging: On request

Storage / Shelf Life: Store in a cool, dry and well-ventilated place in tightly closed original packaging, protected from direct sunlight, heat and moisture; shelf life on request

Product Description

Sodium Cocoyl Glutamate is a mild amino acid surfactant made from natural fatty acids and sodium glutamate. Precise process control keeps salt and residual fatty acid content low, which supports mildness and low irritation. With two hydrophilic head groups, it has a larger molecular weight than most amino acid surfactants, is less likely to penetrate the skin and has a pH close to that of human skin, making it particularly suitable for mild and weakly acidic formulations.

Specifications

Parameter	Liquid grade	Powder grade
Appearance	Colourless or yellowish transparent liquid	White or off-white powder and particles, free of mechanical impurities
Odour	No special odour	No special odour
Active substance content	25.0 – 30.0%	$\geq 95.0\%$
pH (25°C, 10% aqueous solution)	6.5 – 7.5	5.0 – 6.0
NaCl	$\leq 1.0\%$	$\leq 1.0\%$
Water content	–	$\leq 5.0\%$
Acid value	–	120 – 160 mg KOH/g
Colour (Hazen)	≤ 50	–
Light transmittance	$\geq 90.0\%$	–

Foam Performance

pH (25°C)	5.0	5.5	6.0	7.0	8.0	10.0
Powder, soft water (mm)	192	186	193	167	184	152
Powder, hard water (mm)	184	215	200	172	177	158
Liquid, initial H0 (mm)	168	174	183	182	179	161
Liquid, after 5 min H5 (mm)	147	150	160	160	160	151

Rothschild foam apparatus, $40 \pm 1^\circ\text{C}$, 1% active substance, hard water 150 mg/kg. Values read from manufacturer charts (approximate). Rich foam across pH 5.5–8.0; the powder performs best at pH 5.5 in hard water, and foam is similar in soft and hard water at pH 6.0–8.0.

Solubility and Clarity

Temperature (°C)	20	30	40	50	60	70	80
Powder solubility (g/100 g water)	0.4	3.2	16	45	45	46	46

- Powder: solubility rises sharply between 20 and 50°C and is stable from 50 to 80°C; dissolve in warm water.
- Liquid: a 10% (active) aqueous solution remains transparent at pH > 6.5 after 7 days at 0–5°C; at pH 5.5–6.0 it turns turbid at low temperature.
- Salt tolerance improves with pH. At pH > 6.0 the system tolerates NaCl without a co-surfactant; at pH 5.5–6.0 adding an amphoteric surfactant (e.g. 2% lauramidopropyl betaine) raises tolerance to about 3% NaCl.

Thickening Guidelines

- Glutamate systems are inherently low in viscosity. In a Sodium Cocoyl Glutamate / Cocamidopropyl Betaine / thickener system (10/2/2, pH 5.0), propylene glycol laurate gave the strongest thickening.
- Propylene glycol laurate at 2% / 3% / 4% gave about 69 / 545 / 638 mPa·s; the system stays transparent up to 3% and turns turbid at 4%.
- Viscosity is strongly pH-dependent: with cocamidopropyl betaine (and) glyceryl laurate, viscosity reaches about 27,000 mPa·s at pH 5.1, about 7,000 mPa·s at pH 5.2 and drops sharply above pH 5.3.
- **Transparent formulas:** pH ≥ 5.6, combine alkyl betaine, propylene glycol laurate, decyl glucoside, glyceryl laurate and guar gum (reference: 84% transmittance at 600 nm, 6,000–10,000 mPa·s).
- **Opaque formulas:** lower pH to 5.1–5.2 and combine zwitterionic and non-ionic surfactants.
- At pH 6.0–7.0, cocamidopropyl betaine, amphoteric surfactants and alkyl glucosides clearly improve foam richness.

Applications

- Amino acid facial cleansing mousse and foams
- Mild body wash and shower gel, sensitive-skin and baby cleansers
- Weakly acidic, skin-pH cleansing formulations
- Cleansing powders (powder grade)
- Reference levels: about 35–50% liquid grade or about 13% powder grade as main surfactant (13.16% powder corresponds to 50% liquid)

Starting Formulation: Amino Acid Cleansing Mousse (pH 6.0)

Phase	Ingredient (INCI)	Liquid grade %	Powder grade %
A	Water	to 100	to 100
A	Glycerin	13.00	13.00
A	Butylene Glycol	4.00	4.00
A	Allantoin	0.20	0.20
A	Disodium EDTA	0.05	0.05
B	Sodium Cocoyl Glutamate, liquid grade	50.00	–
B	Sodium Cocoyl Glutamate, powder grade	–	13.16
B	Cocamidopropyl Betaine	8.00	8.00
B	Sodium Cocoamphoacetate	6.00	6.00
C	Hydroxyacetophenone	1.00	1.00
C	Citric Acid	q.s.	q.s.

Result: stable system with rich, fine foam and a smooth, mild yet clean wash feel.

Conclusion: The product meets the specified quality standards and is suitable for use in cosmetic and personal care applications.

The information in this document is based on manufacturer test data and is provided in good faith for guidance only. Typical values and performance data are not specifications. Formulators should verify suitability, stability and compliance of the material in their own formulations

and markets.