Clariant

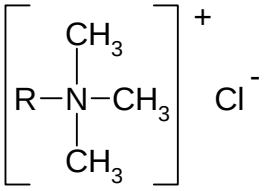
®Genamin STAC

Cationic surfactant for the cosmetic industry

Chemical name

Stearyl trimethyl ammonium chloride

General formula



R = predominantly C_{18}

INCI designation

Steartrimonium Chloride

Product properties *)

Appearance (20 °C)

Pale white pellets

Odour

Of isopropanol

Chemical and physical data

Active substance	80.0 ± 2.0 %
Mean molecular weight	354 g•mol^{-1}
pH-value (1% active substance in water)	4.0 - 6.0
Water	2.0 % max
Ash	0.5 % max
Free amine + amine hydrochloride	2.5 % max
Isopropanol	approx. 20 %

Uses

Genamin STAC is used mainly in creme rinses and hair conditioners. The concentration required is 0.5% - 2.0%, relative to the active substance. The concentration required depends on the hair. The more damaged the hair is the more Genamin STAC will be used to achieve best effect.

Other possible applications are in the manufacture of antistatic fixatives for permanent waving, hair lotions, shampoos and styling creams.

Applications

As a cationic surfactant, Genamin STAC is adsorbed onto negatively charged surfaces without leaving a visible film, for example on the hair. Because of this and its associated properties, Genamin STAC is especially suitable as an active ingredient for hair cosmetics. Genamin STAC offers a good softening and a good antistatic effect for normal hair.

*) These characteristics are for guidance only and not to be taken as product specifications. The tolerances are given in the product specification sheet. For further product properties, specifications, safety and ecological data, please refer to the MSDS.

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Application properties

Hair damaged by bleaching, permanent waving or excessive degreasing tends to mat. Genamin STAC, used in cream aftertreatment preperations, considerably improves the wet combing properties and the condition of the hair.

Genamin STAC is absorbed onto the hair from aqueous and alcoholic solutions as well as from emulsions (dispersions) also in combination with other additives, such as film-forming agents and fatty components, and, because of the reduction in surface resistance, prevents the hair flying after combing.

Compatibility

Genamin STAC can be used in combination with other cationic surfactants to allow special effects with regard to wet and dry combing properties and the feel of the shampooed hair.

Genamin STAC is compatible with nonionic and amphoteric surfactants. It reacts with anionic surfactants by forming electroneutral salts; most of these are only sparingly soluble in water but stable solutions can be obtained by using an excess of an anionic compound.
No signs of incompatibility were observed with mixtures consisting of Genamin STAC and commercial film-forming agents such as polyvinyl pyrrolidone, PVA and PVP/VA.

pH stability

As a quaternary ammonium salt Genamin STAC possesses excellent stability over a wide pH range. It differs from tertiary amines in that the cation persists also in alkaline medium.

Solubility

Genamin STAC is soluble in aqueous preparations and well suited to be formulated into clear systems.

Processing instructions

Genamin STAC is melted at 75 – 80°C together with the emulsifier, especially nonionic are well suited, consistency modifier and any oils used. The aqueous phase is heated separately to the same temperature and added while stirring the melted quat/consistency modifier/oil phase. Active substances and perfume oils should be added only after the mixture has cooled down to about 35°C.

Storage instructions

Usual protection meassurements are nessasary because of the isopropanol included.
The product must be protected from excessively high and low temperatures during storage.
Further information on handling, storage and dispatch is given in the EC safety data sheet.

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