



## Kem Diol

**INCI name:** *Phenoxyethanol,  
Caprylyl glycol*

**Appearance:** Clear colourless & odourless liquid

### Description

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Kem Diol is a liquid preservative system based on the widely accepted cosmetic preservative phenoxyethanol and caprylyl glycol, a multifunctional ingredient with humectant, wetting agent, viscosity regulator that acts as preservative booster.

This optimized combination provides broad spectrum protection against bacteria, yeasts and moulds to a variety of cosmetics without pH restrictions.

Due to the increasing concerns with conventional preservatives in recent years, there is a growing need of alternative in cosmetic preservation. Kem Diol represents a versatile system without controversial ingredients, which meets the more stringent demands of today's market for safety, efficacy and global approval.

### Antimicrobial activity

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Kem Diol is a broad spectrum preservative blend in which the antimicrobial activity of phenoxyethanol is enhanced by the boosting effect of caprylyl glycol.

Caprylyl glycol is a C8 linear diol that increases the effectiveness of phenoxyethanol as promotes the penetration into the microbial cell and reduces the amount of preservative needed. The overall process destabilizes the cell membrane and destroys microorganisms. Therefore caprylyl glycol boosts the performance of phenoxyethanol and helps to decrease the amount of preservative needed improving the preservation safety.

### Properties and stability

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Kem Diol is very soluble in alcohol, glycerin and glycols, soluble in water to approx. 1% and slightly soluble in oils.

it is colourless and odourless, stable and active in the pH range 3-8 and well compatible with cosmetic raw materials. May tolerate working temperature up to 80°C.

### Applications

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Kem Diol is used for the preservation of a variety of aqueous systems, emulsions and anhydrous systems and improve the skin feel of cosmetics. Typical applications include:

- *Hair care:* shampoos, gels, lotions, conditioners, mousses, colourants.
- *Face & eye care:* serums, tonics, gels, lotions, creams, cleansers, masks, wipes.
- *Make-up:* foundations, eyeshadows, eyeliners, mascaras, lipsticks, lip glosses, powders, wipes.
- *Body, foot & hand care:* gels, lotions, creams, exfoliants, oils, wipes.
- *Shaving products:* shaving creams, aftershave, lotions, creams.
- *Sun care:* sunscreens, suntans, aftersuns, gels, milks, creams, oils, sprays, roll ons.
- *Bath products:* shower gels, bubble baths, handcleaners, intimate, oils, powders, wipes.
- *Baby care:* shampoos, bath products, lotions, creams, pastes, oils, powders, wipes.
- *Raw materials:* surfactants, aqueous active ingredients.

### Use levels

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Kem Diol can be used at 0.5-1.5%, alone or to reduce the amount of traditional preservatives.



### **Regulatory approval**

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The components of Kem Diol have excellent safety & toxicological profiles, are largely used and worldwide approved in cosmetics. The blend is permitted in *EU, USA, Latin America, Japan, China & ASEAN* countries and up to 1.78% in all personal care categories without restrictions.

### **Technical support**

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Our microbiological laboratory supports the selection of the most adequate preservation. Challenge tests can be offered to determine the optimal level of preservative in customer's formulations. For further information, documentation and sample please contact us.

### **Highlights**

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- ✓ Broad spectrum & efficient cosmetic preservation.
- ✓ Based on largely used and non-questioned ingredients.
- ✓ Effective in broad pH range from pH 3 to 10.
- ✓ Colourless & odourless liquid.
- ✓ Highly stable to pH, temperature & discoloration.
- ✓ Versatile system for many cosmetic applications.
- ✓ Globally approved with no restrictions.