

General information:

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| INCI Name | Polyurethane-99 |
| Ingredient category | Film former |
| Chemical description | Water-based polyurethane polymer (anionic) with 1.5% antimicrobial additive |
| Appearance | Translucent to milky white dispersion |
| Solid content | 40.0±2.0 |
| pH | 7.0±1.0 |
| Viscosity | ≤1000 mPa.s |



Sustainability profile:

- **Naturality:** 56% naturally-derived (ISO 16128)
- **Biodegradability:** Reached a mean biodegradation rate of 52% within 28 days (OECD 301 ready biodegradability test*).
- **Microplastics status:** derogated (2019 ECHA restriction proposal).

*Test performed on the polymer itself.

Applications:

- **Color cosmetics:** eye makeup, face makeup, lip makeup & nail polish

Technical benefits:

- Waterproofing
- Water resistance
- Rub-off resistance
- Sweat resistance
- Non-transferring
- Anti-smudge
- Good & even color coverage
- High wearer comfort
- Easy to remove

Others:

- Suitable for **vegan** products.
- Suitable for **cruelty-free** products.
- Suitable for **biodegradable** formulas.

Recommendations/Formulating tips:

Use level

- 3-10% as supplied

Compatibility

- **pH:** Products with pH between 4.5-8.0 can be formulated; ideally, we recommend adjusting the pH to the 6.0-8.0 range.
- **UV filters:** Compatible with common used UV filters (mineral & organic).
- **Salts:** Supports low level of electrolytes. We recommend up to 0.5% of sodium chloride.
- **Chelating agents:** Compatible with state-of-the-art chelating agents.
- **Ethanol:** Limited compatibility with up to 20% ethanol; forms milky solutions.

Process

- Add Baycusan® CQ E 1001 at the end of the formulation process below 40 °C.
- We recommend homogenizing before addition of Baycusan® CQ E 1001.
- We recommend adjusting the pH before the addition of Baycusan® CQ E 1001. If necessary, pH could be adjusted with a diluted solution (at 10%) of either citric acid or sodium hydroxide after the addition of Baycusan® CQ E 1001.

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