

General information:

INCI Name	Polyurethane-35
Ingredient category	Film former
Chemical description	Water-based polyurethane polymer (anionic) including 1.5% antimicrobial additive
Appearance	Milky dispersion
Solid content	41.0±2.0
pH	7.5±1.0
Viscosity	≤500 mPa.s



Sustainability profile:

- **Biodegradability:** Reached a mean biodegradation rate of 50% within 28 days (OECD 301 ready biodegradability test*).
- **Microplastics status:** derogated (2019 ECHA restriction proposal)

*Test performed on the polymer itself.

Applications:

- **Sun care:** sun protection lotion, milk & cream
- **Skin care:** face care, wet & dry peel-off masks with pigments
- **Color cosmetics:** eye makeup, face makeup, lip makeup & nail polish

Technical benefits:

Sun care

- High water resistance
- Sweat resistance
- Sand resistance
- SPF boosting

Skin care

- Anti-pollution barrier
- Skin breathability
- Easy & gentle peel-off
- High wearer comfort

Color cosmetics

- Water resistance
- Non-transferring
- Long-lasting
- Even color coverage
- Rub-off resistance

Others:

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



Covestro Deutschland AG
Kaiser-Wilhelm-Allee 60
51373 Leverkusen
Germany

cosmetics.covestro.com
info@covestro.com

Recommendations/Formulating tips:

Use level

- 3-80% 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.
- **Salts:** W/O and W/Si emulsions can be formulated with up to 0.5% of sodium chloride or up 0.8% of magnesium sulfate.
- **Ethanol:** Compatible with up to 75% of ethanol; forms milky solutions.
- **Chelating agents:** Compatible with state-of-the-art chelating agents.
- **UV filters:** Compatible with common used UV filters (mineral & organic).

Process

- Add Baycusan® C 1004 at the end of the formulation process below 40 °C.
- We recommend homogenizing before addition of Baycusan® C 1004 process below 40 °C.
- We recommend adjusting the pH before the addition of Baycusan® C 1004. If necessary, pH could be adjusted with a diluted solution (at 10%) of either citric acid or sodium hydroxide after the addition of Baycusan® C 1004.

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