

Solid and Liquid Soap – Bioglitter® Application Guide

EU Regulation 2023/2055 (EU Microplastic Legislation)

EU Regulation 2023/2055 applies to all cosmetic products containing intentionally added polymer particles.

For **rinse-off cosmetic products**, including soaps, the restriction on non-compliant polymer particles is effective from **17 October 2027**. Consequently, **non-compliant glitter (microplastic particles) can no longer be added** to rinse-off cosmetic products placed on the EU market after this date.

Cosmetic Bioglitter® is fully compliant with EU Regulation 2023/2055 and provides formulators with a future-proof, plant-based alternative to non-compliant glitter, delivering exceptional visual impact while meeting the world's most stringent legislation governing synthetic microplastic particles.

Why Choose Cosmetic Bioglitter®?

- **Fully compliant with EU Regulation 2023/2055** for rinse-off cosmetic products.
- **Specifically developed for cosmetic applications** and manufactured in Germany to cosmetic quality standards.
- **Made from Plants and biodegrades quickly and safely in natural environments**
- **Vegan**, all Bioglitter® products are cruelty free and vegan.
- **Patented Bioglitter® technology**, manufactured exclusively by Sigmund Lindner GmbH.
- **Available in a wide range of colours, particle sizes and optical effects**, including metallic, holographic, transparent, opalescent and opaque finishes.
- **Suitable for glycerine soaps, melt & pour soaps, liquid soaps and selected cold process soap applications**, subject to customer evaluation.

Choosing the Correct Bioglitter®

For all soap applications, **Cosmetic Bioglitter®** should be used to ensure compliance with cosmetic and the EU microplastic regulations.

Due to the alkaline and chemically active nature of soap formulations, only the following product ranges are recommended:

Metallic Effects

- **Cosmetic Bioglitter® SPARKLE V3** – Highest chemical resistance and recommended for all soap applications requiring metallic sparkle.

Non-Metallic Effects

PURE V2 products produce a unique glitter effect unlike any glitter effect seen before, even in conventional glitters.

- The Color & Opal produce attractive translucent, pearlescent and opalescent effects.
- The Opaque and Neon produce matte and vivid day glow effects.

- **Cosmetic Bioglitter® PURE V2 Color & Opal** – translucent / pearlescent / opalescent effects
- **Cosmetic Bioglitter® PURE V2 Opaque** – Solid matte colours
- **Cosmetic Bioglitter® PURE V2 Neon** – Bright fluorescent colours

All the above products have been developed to provide excellent performance in cosmetic formulations while maintaining compliance with current legislation.

Recommended Bioglitter® Particle Sizes

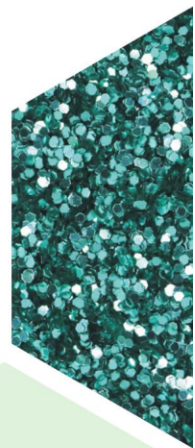
The particle sizes used in soap applications are typically:

- **006** (approximately 0.15 mm)
- **008** (approximately 0.20 mm)
- **015** (approximately 0.40 mm)
- **040** (approximately 1.00 mm)

The optimum particle size will depend upon the desired visual effect.

In general

- Smaller particles provide a subtle shimmer.
- Larger particles create brighter sparkle and greater visual impact.



Soap Types

Transparent Glycerine & Melt & Pour Soaps

Transparent soaps generally produce the best visual results with Bioglitter®. Because the soap base is transparent, the glitter particles remain visible throughout the finished product, creating depth, sparkle and eye-catching visual effects.

The **PURE® V2 Opal** range is particularly attractive in transparent soap bases, producing unique translucent / pearlescent / opalescent effects that cannot be achieved with conventional glitter.

Opaque Soap Bases

Bioglitter® can also be incorporated into opaque soap formulations. However, because the soap itself is opaque, only the particles located near the surface of the finished soap will remain visible.

For this reason, transparent soap bases generally provide the greatest visual impact.

Liquid Soaps

Bioglitter® can also be incorporated into liquid soap formulations.

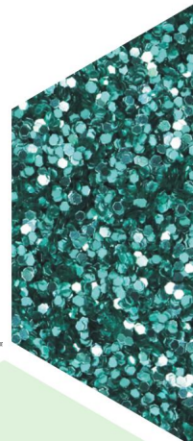
As with any decorative particle, a suitable suspending agent or rheology modifier should be used to prevent the Bioglitter® particles settling during storage. The optimum suspension system will depend upon the viscosity and formulation of the finished product.

Typical Processing Guidelines

Bioglitter® should be added during the final stages of manufacture once the soap base has cooled sufficiently to minimise unnecessary thermal exposure while still allowing good dispersion.

Mix gently to achieve an even distribution whilst avoiding excessive shear.

For liquid soaps, ensure that an appropriate suspension system has been incorporated before adding Bioglitter®.



Initial Product Evaluation

For customers evaluating Bioglitter® for the first time, we recommend initially testing:

- **Particle sizes 008 and 015**
- **Cosmetic Bioglitter® SPARKLE V3**
- **Cosmetic Bioglitter® PURE V2 Color**
- **Cosmetic Bioglitter® PURE V2 Opal**

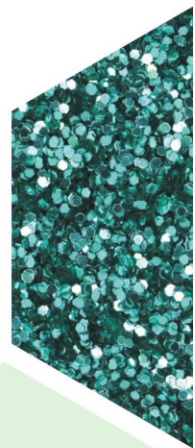
These products provide an excellent indication of the available visual effects across the Bioglitter® range.

The **PURE® V2 Opal** products are particularly recommended for transparent glycerine and liquid soaps, where their unique translucent / opalescent appearance produces striking decorative effects.

Product Evaluation

Soap formulations vary considerably in pH, surfactant system, additives, fragrances, colourants and manufacturing process.

Customers should therefore carry out their own formulation trials to determine the optimum Bioglitter® grade, particle size and loading level for their specific application.



Use of the Bioglitter® Logo



The **Bioglitter®** name and logo are registered trademarks of Sigmund Lindner GmbH and are recognised throughout the industry as a mark of authentic Bioglitter® technology.

Customers using genuine Bioglitter® products are encouraged to promote this by using the official Bioglitter® logo on their packaging, websites and marketing materials, subject to approval from Sigmund Lindner GmbH and in accordance with our Brand Guidelines.

The logo provides consumers with confidence that genuine Bioglitter® has been used and distinguishes products manufactured using authentic, patented Bioglitter® technology from those simply marketed as "biodegradable glitter."

Please contact your Sigmund Lindner representative to obtain approval, official logo files and the latest Brand Guidelines before using the Bioglitter® logo.

Disclaimer

The information contained in this document is based on our current knowledge of Bioglitter® products together with practical experience from cosmetic formulators and is provided for guidance only.

As soap formulations, manufacturing methods and processing conditions vary considerably, product performance may differ between applications. Customers are responsible for carrying out their own trials to determine the suitability, performance and regulatory compliance of Bioglitter® for their intended application before commercial production.