

PUREWHITE™

The mineral, clean-label and titanium-free alternative for whitening and total optical finishing in food.

The European food industry faces a crucial challenge: finding effective alternatives to titanium dioxide that comply with demanding EU regulations and satisfy consumer demands for more natural products. PUREWHITE™ emerges as the definitive solution, offering revolutionary mineral technology that does not compromise quality or performance.

This innovative formulation represents the future of food whitening, combining technical efficacy with regulatory transparency. Developed specifically for manufacturers and R&D managers seeking to maintain excellence in their products whilst moving towards cleaner and more sustainable formulations.



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What is PUREWHITE™

PUREWHITE™ is a technological formula of **100% mineral** origin designed to replace titanium dioxide (TiO₂) as a whitening and colour agent in food applications. This innovative solution represents a significant advancement in food ingredient technology, offering a completely natural and safe alternative.

The formulation is characterised by being preservative-free, **nanoparticle-free**, **titanium-free** and simply declared under the **clean label** concept. This characteristic is fundamental for manufacturers looking to simplify their labels and respond to growing consumer demands for transparency.

PUREWHITE™ is **classified as "colour"** in the European Union, and all its components are authorised for food use globally, guaranteeing its regulatory acceptance in major international markets.



📄 **Key advantage:** Simplified classification as "colour" in the EU streamlines the regulatory and labelling process.



How it Works: Applied Science and Technology



microscope

Single-Grain Fusion Technology

Proprietary technology that creates a unique crystalline micro-structure, optimised for maximum optical efficiency and stability in various food matrices.



light beam

Advanced Light Reflection

The crystalline structure optimally reflects light, delivering a brilliant white with few application layers, improving process efficiency.



diamond

Refractive Index Control

Precisely controlled RI 1.54–1.59 to promote a stable and homogeneous optical finish in very different matrices, from confectionery to dairy products.

The **Single-Grain Fusion Technology** represents a revolutionary advance in materials engineering for food applications. This proprietary process allows for the creation of particles with superior optical characteristics, maintaining the chemical and physical stability required for demanding industrial applications.

Precise control of the refractive index ensures that PUREWHITE™ performs consistently regardless of the food matrix, from high-fat systems to aqueous formulations, providing exceptional versatility for formulators.



Key Benefits for Your Brand

1

Effective TiO₂ Replacement

Completely replaces titanium dioxide without sacrificing whiteness or surface gloss. Maintains or improves the product's visual quality, ensuring consumer satisfaction.

2

Authentic Clean Label

Pure mineral formula: **no preservatives, no nanoparticles, titanium-free**. Significantly simplifies labelling and enhances consumer perception.

3

Improved Texture

Increases the coating's **crispness** and provides a more pleasant bite, adding sensory value to the product beyond its visual appeal.

4

Functional Versatility

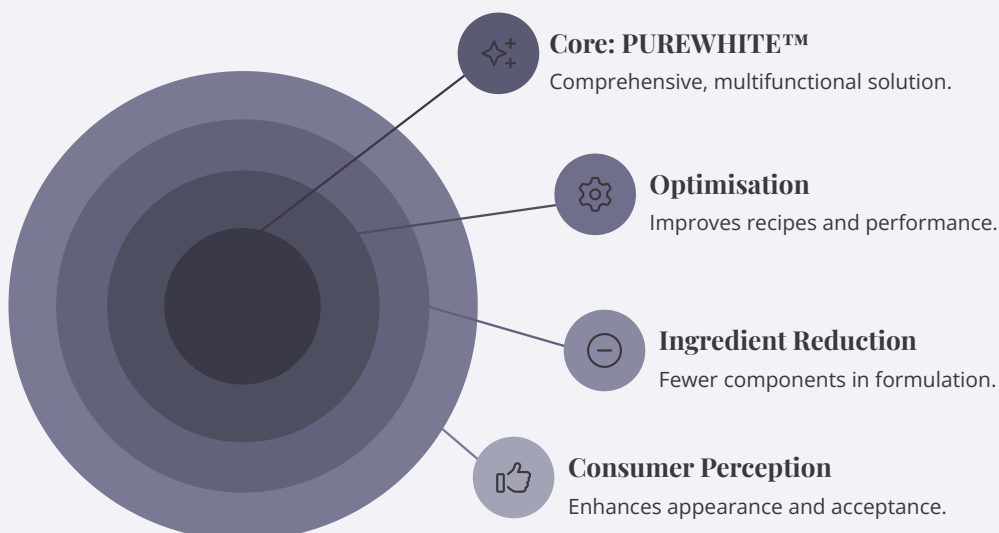
Acts as a **firming agent, acidity regulator, stabiliser** in dairy products, **yeast nutrient**, and an **additional source of calcium**.

5

Economic Efficiency

Low dosages achieve white and uniform coatings, optimising formulation costs and improving product profitability.

These benefits position PUREWHITE™ as a comprehensive solution that goes beyond simply replacing TiO₂. Its multifunctional capability allows formulators to optimise their recipes, reduce the number of ingredients, and enhance consumer perception, all whilst maintaining or improving the final product's quality.



Where to use it: Main Applications

Confectionery and Pan-coating

Integration into the **sugar solution** or mixing with granulated sugar **before baking**. Provides brilliant white, attractive **gloss** and a smooth surface, significantly improving the visual presentation of the product.

Dairy and Plant-based Beverages

Functions as a **stabiliser** and supports **opacity** in calcium-enriched matrices. Especially effective in plant-based beverages where visual consistency is crucial.

Processed Meats

Used in **brine** or **direct injection** to **maintain colour and texture** in processed poultry and pork. Improves appearance and extends the visual shelf-life of the product.

Brewing

Acts as a **yeast nutrient** with no negative impact on the final product, supporting healthy fermentation and maintaining the sensory quality of the beer.

Important technical note: PUREWHITE™ is **water-insoluble**; for use in aqueous media, **emulsification** is recommended to ensure homogeneous dispersion and optimal results.

The versatility of PUREWHITE™ allows for its application across virtually all food categories where whitening or appearance improvement is required. Its adaptability to different industrial processes and food matrices makes it a unique solution for manufacturers with diversified portfolios.



This cyclical representation highlights how PUREWHITE™'s properties, from its ability to whiten and enhance visual appeal, extend its use across multiple food categories, seamlessly integrating into various industrial processes, ultimately supporting manufacturers with diversified product portfolios.

PUREWHITE™
Natural Purity at its Best

Regulatory Compliance and Labelling

European Union

Ingredients covered as **E170** under **Regulation (EC) 1333/2008**. Minerals included in **Annex II of Regulation (EC) 1925/2006** and **Annex III of Regulation (EC) 1170/2009**.

- Declaration may be omissible according to Art. 20 et seq. of Regulation (EU) 1169/2011
- Case-by-case evaluation depending on specific application

United States

Ingredients covered by **21 CFR 73.1070** and **21 CFR 184.1191 (GRAS)**, ensuring full access to the North American market.

- GRAS recognition facilitates implementation
- Compatibility with FDA regulations

"Quantum satis" Principle

Authorised **QS** in the vast majority of categories where its use is permitted, offering maximum flexibility in formulation and dosage according to specific product needs.

*This information summarises the regulatory fit of PUREWHITE™ components; the final qualification and **labelling** depend on the specific **formulation** and **use** by the client.*

PUREWHITE™'s robust regulatory compliance in key global markets significantly reduces regulatory risk for manufacturers. The possibility of omission in labelling under certain conditions represents an important competitive advantage, especially for brands seeking to simplify their ingredient lists.

We recommend working closely with our regulatory team to evaluate each specific application and optimise the labelling strategy according to the target market and particular formulation.



Quality, Safety, and EU Origin



European Manufacturing

Made in the EU under **quality systems** focused on customer satisfaction and continuous improvement. Components **approved by European and international authorities**.



Guaranteed Purity

Free from preservatives and **nanoparticles**. An edible, multi-tested ingredient, with no intake restrictions in the context of recommended use.

100%

Natural Mineral

Completely mineral origin without synthetic additives

0

Nanoparticles

Completely free from nanoparticles by design

EU

Manufacturing

Produced in certified facilities within the European Union

The quality of PUREWHITE™ is founded on a rigorous control system that spans from the selection of raw materials to the finished product. Our European facilities comply with the highest international standards for food quality, including HACCP, BRC, and IFS certifications.

The commitment to safety is reflected in every stage of the production process. Quality controls include microbiological, physical-chemical, and purity analyses that guarantee batch-to-batch consistency and conformity with the most demanding technical specifications.

Complete traceability from mineral origin to final product ensures total transparency in the supply chain, facilitating customer audits and compliance with corporate sustainability standards.

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Presentation and Logistics



Standard Industrial Format

15 kg bags optimised for industrial use, designed to facilitate handling, storage, and dosing in automated production lines.



Supply Flexibility

Other formats available upon request to adapt to specific production needs, from laboratory samples to bulk containers for large volumes.



Optimised Logistics

Packaging designed for maximum stability during transport and prolonged storage, maintaining the product's technical properties intact.



Our logistics system is designed to guarantee punctual deliveries and products in perfect condition. The 15 kg bags represent the optimum balance between manageability and efficiency for most industrial operations, reducing handling times and minimising the risk of contamination.

For clients with specific needs, we offer customised packaging services, including bags of different sizes, big bags for large volumes, or even continuous supply systems for high-volume operations. Our commercial team works closely with each client to optimise logistics according to their operational requirements.



Implementation Recommendations

01

Objective Definition

Define the specific function (whitening, stabilisation, firmness, calcium, etc.) and characterise the food matrix (confectionery, dairy, meat, beverage) to optimise the formulation.

02

Dispersion Strategy

Pre-emulsify when the phase is aqueous to ensure uniform coverage and gloss. Develop specific mixing protocols according to the type of process.

03

Dose Optimisation

Start with low ranges and progressively adjust for whiteness objective and refractive index. Document response curves for industrial scaling.

04

Comprehensive Validation

Confirm gloss, crispiness, and colour stability under real production and storage conditions. Include sensory evaluation with trained panels.

05

Regulatory Compliance

Verify labelling and omitibility (Art. 20, Reg. 1169/2011) for specific categories and countries of destination. Coordinate with internal regulatory teams.

The successful implementation of PUREWHITE™ requires a systematic approach that considers both technical and regulatory aspects. Our technical team provides full support throughout the development process, from initial laboratory tests to large-scale industrial validation.

We recommend establishing an evaluation protocol that includes accelerated stability tests, shelf-life analysis, and sensory evaluation to ensure that the final product meets all quality and performance expectations.

Continuous technical support ensures a smooth transition from laboratory formulation to commercial production, minimising risks and optimising time-to-market.

PUREWHITE™

Got Questions? Talk to an Expert

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Suggested Commercial Messages for the B2B Market



Key Selling Points

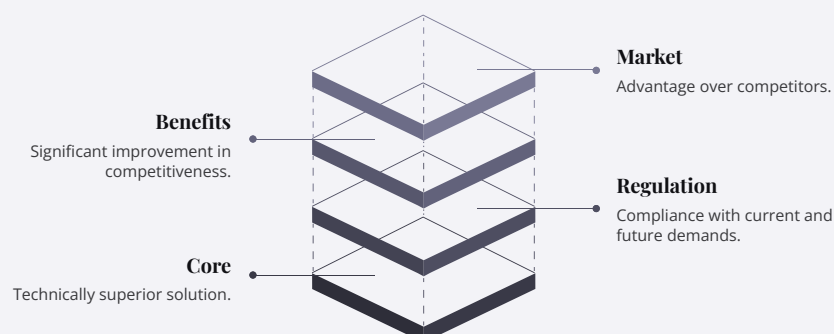
- **Direct replacement** for TiO₂ without complex reformulation
- **Authentic clean label** that enhances consumer perception
- **Multifunctionality** that simplifies formulations
- **Cost efficiency** due to low dosages required
- **Regulatory compliance** in key global markets

Competitive Differentiators

- Proprietary **Single-Grain Fusion** Technology
- **European manufacturing** with superior quality standards
- Specialised technical support and personalised service
- Complete traceability and transparency in the supply chain
- Continuous innovation backed by dedicated R&D

PUREWHITE™ represents more than a simple alternative to titanium dioxide: it is an opportunity for European manufacturers to lead the transition towards more natural and sustainable ingredients, without compromising the quality or efficiency of their production processes.

The value proposition focuses on offering a technically superior solution that responds to current and future regulatory demands, while providing additional benefits that can significantly improve the competitiveness of the final product in the market.



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