



Cosmetics &
Personal Care

Sustainability Testing Services and Solutions

In recent years, consumers have become more conscientious and have a greater understanding and sense of responsibility when it comes to purchasing products which not only work and are good for their skin but are also safe, ethical and environmentally friendly. This impacts several product categories and has inspired scientific breakthroughs and innovation.

Brands have to face new regulations and sustainability challenges, which entails new marketing claims. To make this possible, the Eurofins Cosmetics & Personal Care network of companies supports customers to work in a more sustainable way offering solutions tailored to your needs.

Achieving Carbon Neutrality: 2025 Objective

As a group of companies that work to safeguard the environment through many of our testing activities, considering our impact on the environment is a priority, as is a commitment to sustainable operations. Reducing the world's carbon footprint is a challenge facing us all; we need to contribute to a sustainable, healthy environment and be socially and environmentally responsible.

In 2020, we announced the ambitious goal of achieving carbon neutrality by 2025, through a careful programme of CO₂ emission reduction and carbon offsetting. We have since implemented several CO₂ reduction projects, and local programmes have been launched in our laboratories with the goal of improving sustainability and reducing our CO₂ emissions. In cases where we are unable to reduce our carbon footprint in certain areas, we have found ways to offset this and continue towards our goal.



What is Ecotoxicity?

Ecotoxicity is the measure of the impact of substances on living organisms in various ecosystems, such as fresh water, sea water, and terrestrial media.

Depending on the method, we can study the acute toxicity or the chronic toxicity. Like biodegradability, ecotoxicity is a criteria in regulations or for eco-friendly labels (according to OECD or ISO guidelines).

Some of the ecotoxicity tests offered include:

- Acute and chronic toxicity
- Fresh water and sea water organisms: Daphnia, Microtox, Oyster, Algae, Corals...
- Terrestrial organisms: Worms, plants



What is Biodegradability?

Biodegradability is the capacity of a material to decompose over time as a result of biological activity into smaller molecules (carbon dioxide, water, mineral salts...).

OECD 301 Guidelines (readily biodegradability) are the standards most commonly used to measure a substance's biodegradability. The standard for the assay is chosen according to the properties of the test substance (solubility, volatility, etc.). Biodegradability tests on finished products and raw materials are very important issues for the cosmetics market.

Indeed, biodegradability is a criteria in regulations such as REACH or for labels with a European Ecolabel (according to OECD guidelines).

Some of the biodegradability tests offered include:

- Ready biodegradability
- Ultimate aerobic biodegradability
- Manometric respirometry
- Intrinsic biodegradability



The evaluation of compostability is carried out through four analyses simulating the biological process of material degradation and making it possible to determine after several months of testing, whether a material, product or package can be put in a composter.

Aware of the environmental, societal and legislative challenges associated with the waste recycling process through composting, the Eurofins teams offer the evaluation of the compostability of packaging or any other type of product (plastic, disposable cutlery, wipes, etc.)

Some of the compostability tests offered include:

- Compostability testing in an industrial environment (EN 13432 ASTM D6400):
 - Chemical composition study
 - Biodegradability testing (ISO 14855)
 - Disintegration testing (ISO 16929)
 - Terrestrial ecotoxicity testing (OCDE 208)
- Compostability testing in a domestic environment (NF T 51800)



Water contamination and pollution

Water contamination and pollution in manufacturing are significant environmental concerns that arise from the discharge of untreated, or inadequately treated industrial wastewater into natural water bodies. These discharges may contain potentially harmful chemicals such as heavy metals and Per- and polyfluoroalkyl substances (PFAS) that can pose threats to aquatic ecosystems, human health, and overall water quality.

Manufacturing processes in industries can generate large volumes of wastewater with high levels of contaminants. It is therefore crucial for manufacturers to implement responsible wastewater management practices, including on-site treatment, pollution prevention, and waste minimisation.

Water reuse and recycling

Water reuse and recycling in manufacturing is a rapidly growing area of interest as industries recognise the importance of sustainable water management practices. By treating and reusing wastewater, manufacturers can significantly reduce their water consumption, lower operating costs, and minimise their environmental impact.

The integration of water reuse and recycling systems in manufacturing not only contributes to water sustainability but also helps companies achieve their corporate social responsibility goals and adhere to environmental regulations.

Some of our water management services include:

- Effluent treatment plant audits (ETP)
- Water usage audits and stewardship audit
- Microplastic testing in water
- Water testing
- Per- and polyfluoroalkyl Substances (PFAS) testing in potable, clean and wastewater



Consumers are becoming more and more aware of the importance of saving water, asking for eco-friendly products that require less rinsing without compromising product performance.

At Eurofins Cosmetics & Personal Care, we are developing a triple testing approach towards water-smart products:

- instrumental testing
- clinical testing
- consumer testing

These tests complement one another and allow you to make claims about the rinsability of your skin and hair products.



Each part of a product's life cycle is catalogued from the extraction of raw materials to production; its inputs, transport, the use and what happens to a product after use.

Life Cycle Assessment (LCA) provides a detailed understanding of a product's sustainability credentials, enabling companies to see the individual impacts and deliver improvements and savings. It can help shape policy, make product claims, deliver cost savings, influence design, and shape strategy.

We offer a range of LCA services that can be used to deliver internal benchmarking exercises or more detailed third party verified reports for claims and external publication.



Today's consumers are paying more attention to the quality and especially the origins and traceability of the ingredients in cosmetic products. Given the complexity of the sources of supply, it is not always easy to meet these consumer demands.

Eurofins Cosmetics and Personal Care network of companies offers isotopic analysis through well known techniques to:

- Determine the natural or synthetic origin of a flavouring substance (e.g. vanillin)
- Differentiate between animal and vegetal origin (e.g. glycerol), terrestrial or marine origin (e.g. Chondroitin sulfate), and plant or animal origin (squalene/squalene)
- Verify vegetable sources of organic acids (Citric, malic tartaric, ascorbic, propionic etc.)

To prevent the economic consequences of the disruptions due to global crises, many are looking to establish sources elsewhere and switch supply chains locally.

However, the addition of new supply sources complicates the development process of a cosmetic product.

The Regulatory Affairs Officer and Toxicologist Teams at Eurofins Cosmetics & Personal Care can provide you with personalised support during your multi-sourcing process, including:

- Validation of the material according to your blacklist and the reference material
- Approval/evaluation of the new source
- Updating regulatory documents, such as the Product information File, Material certificates, etc.
- Possible revision of the product safety assessment.



Recent innovative packaging developments have predominantly revolved around different aspects of sustainability, such as recyclability, biodegradability, compostability, refillability, reusability and the use of biosourced materials or raw materials derived from renewable resources. Eurofins' network of companies supports clients' quality control and risk assessment management procedures in the design, reuse, and valorisation of packaging, from the resin stage to the final packaging and during the entire life cycle of the product:

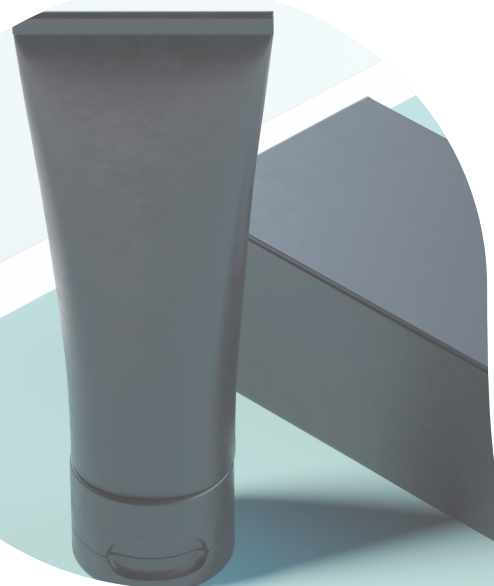
- **Regulatory and Safety Assessment:**
Review documentation, check conformities, evaluate container-content interaction, develop a suitable analytical testing plan
- **Analytical Testing:**
Ensure performance: physical, stability and mechanical testing.
Guarantee safety: analyses for toxic substances, food contact testing
- **Design for sustainability:**
Plastics content measurement, end of life recovery, compostability
- **Recycled Plastic Packaging:**
Overall migration, heavy metals, release of metals, release of carcinogenic primary aromatic amines, release of substances of concern like Bisphenol A or Phthalates, release of non-intentionally added substances
- **Audit & Consulting:**
Evaluation of the supply chain, identification and assessment on both recycling solutions and suppliers of recycled materials

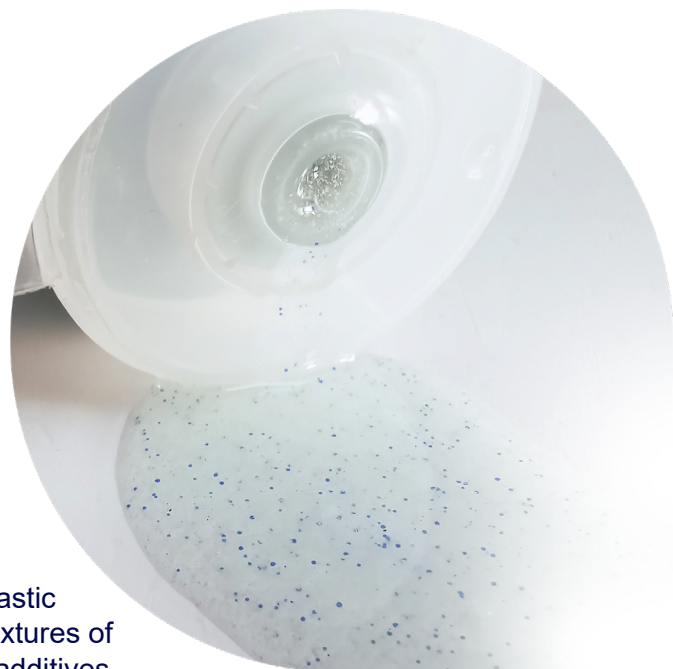
Currently, bulk sales are a major subject and are reaching all sectors, including hygiene and beauty, by offering innovative solutions.

Their positive impact on the environment is undeniable and their achievement involves major challenges and constraints.

Eurofins supports you in the main stages of the development of your bulk sales project in order to implement a controlled approach and ensure compliant and quality products for the consumer:

- Procedures for workers in shops and training
- Cleaning protocols
- Reusable packaging testing
- "Mystery" client audits and quality audits
- Quality control in shops





Microplastics are solid plastic particles composed of mixtures of polymers and functional additives. Microplastics can be unintentionally formed or deliberately manufactured and added to products for specific purposes which can be harmful to the environment.

According to the ECHA, specific derogations have been included in the restriction proposal. Some criteria have been set out to clarify that (bio)degradable polymers are exempt from the restriction on the basis that they do not contribute to microplastic concerns. The derogation is required to ensure that the restriction is targeted to the substances contributing to the identified risk.

In such cases it will be sufficient to demonstrate that the polymer meets the suggested criteria. In practice this may mean testing the polymer(s) prior to the formation of the particle.

At Eurofins Cosmetics & Personal Care, our network of companies can help you to define the regulatory and compliance framework that your products would need to comply with and thereby provide services, including testing biodegradability methods for microplastics under GLP or ISO 17025, in order to place a compliant product on the market.



Per- and polyfluoroalkyl substances (PFAS) are often added deliberately as ingredients in some cosmetic products. In addition, they might be present as unintended degradation products or impurities resulting from the production of PFAS precursors used in certain cosmetic products. Some of them are considered toxic. Many countries are leading the way in eliminating PFAS from cosmetic and packaging products. PFAS methodologies and regulations are continually evolving as additional compounds are identified, and local regulations continue to expand their testing requirements for these contaminants.

With our dedicated teams, Eurofins network of laboratories is able to offer you the flexibility to develop a testing plan and adapt to the continually changing analytical needs. With more than 20 years of experience, we are able to test a wide range of matrices for up to 75 PFAS compounds, with a breadth of equipment dedicated to PFAS analysis and LOQ/LOD capabilities.



Considered as potentially hazardous to human health, nanomaterials are used in several sectors such as construction, food, and cosmetics. International regulations apply pertaining to the use of nanomaterials, including European regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals, and Californian regulations.

To ensure your cosmetic products comply with regulatory obligations, Eurofins companies offer dedicated tests to characterise and analyse nanoparticles, including titanium dioxide TiO_2 and zinc oxide ZnO .

Our specialised laboratory in France is the first European laboratory accredited in accordance with the NF EN ISO/IEC 17025 standard on the characterisation of the morphology and distribution size for nanoparticles in raw materials used in cosmetics and finished cosmetics products using Transmission Electron Microscopy (TEM) technology.



Driven by growing consumer awareness of the usage of animal-derived ingredients and increasing demand for vegan-certified products, vegan-friendly beauty care could become the standard for the consumption of cosmetic products. In partnership with the Vegan Society, Eurofins has developed a robust Vegan Verification Programme.

This innovative methodology provides a complete solution which establishes whether any animal products or by-products have been used in their manufacturing and development process. Vegan Verification helps to specify vegan cosmetics products using a phased approach covering:

- Toxicological and Regulatory Assessment
- Animal DNA analysis
- On-site Audit
- Declarations of conformity / labelling
- Referral to The Vegan Society

This complete programme allows manufacturers, brands and retailers to properly test their products and label them as 100% vegan.





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Global Expertise, Personal Touch

