



# Biodegradable packaging certification

Prove your sustainability credentials to the market

Add value.  
Inspire trust.

### Your challenges

Compostable and biodegradable packaging contribute to efficient waste management and the circular preservation of resources. They provide added value through organic recycling as an additional waste treatment option. The EU acknowledges the positive role it plays in putting the circular economy model into practice. Consequently, many authorities across the world have banned the use of conventional single-use plastic products.

Global regulatory requirements and consumer demand for more sustainable products have therefore impacted the design and manufacture of packaging materials. As manufacturers are developing alternative packaging materials that replace conventional packaging, they need to take care that it meets the requirements for sustainable packaging.

## Independent third-party testing and certification demonstrate the biodegradability credentials of your packaging and packaging materials.

### What is biodegradable packaging certification?

Based on the requirements of EN13432 and other European standards and regulations, TÜV SÜD's test programme determines the biodegradability during industrial composting of packaging and packaging materials.

Test results are compared with pass/ fail limits, to ensure that the material passes every test requirement. The quality of the compost produced should not be negatively impacted by the addition of the biodegradable packaging material. The test criteria include:

- **Biodegradation** – measures the packaging material's rate of metabolic, microbial conversion into water, carbon dioxide, mineral salts of any other elements present and new cell biomass.
- **Disintegration** – packaging material is mixed with organic waste for 12 weeks, after which time, no more than 10 percent of material fragments are allowed to be larger than 2 mm.
- **Toxic substances** – there must be a minimal negative effect on the quality of the resulting compost.
- **Ecotoxicity effects** – compares compost produced with and without the addition of packaging material.





# TÜV SÜD sustainability services for products through a circular economy lens



## RAW MATERIALS



### Mitigate risk of materials and substances of concern

- Chemical safety testing (RoHS, POP, REACH regulatory)
- Biological safety testing
- Packaging and packaging waste directive testing
- Microplastics testing
- Bio-based content testing\*
- Recyclate testing\*

## END OF LIFE



### Reduce waste and increase secondary material use

- Recycled content verification/certification
- Biodegradability testing/certification
- Recyclability certification
- WEEE directive testing/certification

## PRODUCTION



### Establish resource-efficient production processes

- Facility environmental audits
- Energy efficiency testing
- Eco-design/ErP Directive testing
- Wastewater/sludge testing

## PRODUCTION USE



### Extend product lifetime and enable re-use

- Performance and endurance: durability, functions, handling, maintenance
- Reliability and performance (mechanical and physical)
- Lifetime simulation testing
- Reparability testing

## OVERARCHING

- Product Life Cycle Assessment (LCA) critical review
- Product Carbon/Water Footprint verification
- Product Environmental Footprint (PEF) verification\*
- Supply chain traceability verification\*

\*New services / under development

## Why is biodegradable packaging certification important to your business?

Global consumers are becoming increasingly aware of the negative environmental impact of packaging waste, and many are now refusing to purchase products that use packaging that is not biodegradable.

Authorities across the world are also introducing more rigorous requirements, such as the European Union's Packaging and Packaging Waste Directive, Green Deal and e.g. EN 13432 – "Packaging: requirements for packaging recoverable through composting and biodegradation".

To meet escalating consumer demand for green packaging, and to be able to continue to sell their packaged products in markets which demand more sustainable packaging, manufacturers must focus on producing environmentally friendly materials. Independent third-party test and certification shows the biodegradability credentials of your packaging and packaging materials, providing proof that your packaging is eco-friendly.

## The TÜV SÜD Certification Mark



The TÜV SÜD mark is widely recognised and respected as a trusted symbol of quality, safety and sustainability, as our certificates represent third-party endorsement by a globally renowned organisation. The TÜV SÜD certification mark offers an excellent marketing tool by enhancing the value of your brand and inspiring greater confidence among your business partners and end users.

The certification mark is awarded within the framework of voluntary testing and certification. It demonstrates that the product has been tested and certificated by the third-party organisation, TÜV SÜD. The certification mark is only affixed to products that have undergone inspection by TÜV SÜD and comply with the criteria below:

- **≥ 90% Biodegradation rate**

Breakdown of a packaging or packaging material by micro-organisms in the presence of oxygen to carbon dioxide, water and mineral salts of any other elements present (mineralisation) and new biomass. The biodegradation rate shall not be less than 90% after a maximum of six months.

- **≥ 90% Disintegration rate**

The physical breakdown of a packaging or packaging material into very small fragments. The packaging or packaging material shall disintegrate during composting such that any remaining material is not readily distinguishable from the other organic materials in the finished compost. Additionally, the packaging or packaging material shall not be found in significant quantities during screening prior to final distribution of the compost. After composting for a maximum of 12 weeks, not more than 10% of the original dry weight of tested packaging or packaging material shall be found in a sieve fraction > 2mm.

- **Toxic substances tested**

These tests refer to the negative effects on the quality of the resulting compost. The results of the tests (volatile solids, heavy metals, fluorine, SCCP, phthalates and PAH) shall be within the predefined limits based on the standard DIN EN 13432, Regulation (EC) 1907/2006 (REACH), Annex XVII, Regulation (EU) 2019/1021 (POP) and Directive 94/62/EC (packaging and packaging waste).

- **Ecotoxicity tested**

Ecotoxic effects on two higher plants shall be determined by comparing compost produced with and without the addition of packaging or packaging material. The seedling germination rate of the finished compost and the plant biomass in the compost shall be no less than 90% of that of corresponding blank composts, to which no test or reference material was added at the start of testing.

- **Type tested**

The voluntary certification mark with the statement "Type tested" is issued for products and components. The certification mark demonstrates that the product/component was tested and certified by the independent third-party organisation of TÜV SÜD for conformity with the essential technical safety requirements.



- **Production monitored**

Periodic surveillance and/or monitoring of the manufacture of a product constitutes the basic premise for certification that includes the award of a certification mark. Certification always requires product testing and regular factory inspections.

As a third-party expert organisation, TÜV SÜD verifies that the manufacturer is able to maintain consistent quality in line with the requirements throughout high-volume production and has established the necessary quality system, including incoming goods inspections, lists of materials and final product testing.

In addition, calibration of the necessary measuring and monitoring equipment must be ensured. Surveillance and/or monitoring covers the testing of safety-critical components and other materials used. If unauthorised changes are made to the product, the certificate will become invalid and the TÜV SÜD certification mark may no longer be used. During the follow up factory inspection, samples are taken to verify the material characteristics.

- **PPP 14100**

The PPP 14100 is a test programme for packaging and packaging material within the scope of the Directive 94/62/EC. It lists all testing items, standards and test modules which are necessary to receive the certification mark.

Within the PPP following aspects are covered:

- Markings
- Relevant documents
- Constituents
- Material characteristics
- Chemical characteristics
- DIN EN 13432



#### Your business benefits

- **Gain a competitive advantage** – by promoting your efforts towards sustainability and the environmental friendliness of your packaging.
- **Minimise time to market** – by ensuring that your packaging meets regulatory requirements and can be sold in your target markets.
- **Enhance brand reputation** – by gaining an internationally recognised and trusted certificate from TÜV SÜD.

#### Why choose TÜV SÜD?

As TÜV SÜD is an internationally accredited certification body, you can be assured that we conduct certifications with the highest degree of professionalism and conformance to international guidelines and standards. Our international network enables us to offer certification and auditor engagement services on every continent, certifying organisations' compliance on a global scale.

TÜV SÜD's experts actively participate in international standardisation committees and have a complete understanding of the latest regulatory developments. Our third-party audits are both impartial and independent, helping your organisation to gain valuable insights from an unbiased expert.

#### Related services

##### TÜV SÜD provides the following related services:

- REACH regulation certification
- Recycled content verification service
- Corporate social responsibility (CSR) audits
- Regulatory testing for the European Packaging and Packaging Waste Directive (94/62/EC)
- FSC and PEFC certification for sustainable wood products





**Add value. Inspire trust.**

TÜV SÜD is a trusted partner of choice for safety, security and sustainability solutions. It specialises in testing, certification, auditing and advisory services. Through more than 26,000 employees across over 1,000 locations, the company adds value to customers and partners by enabling market access and managing risks. By anticipating technological developments and facilitating change, TÜV SÜD inspires trust in a physical and digital world to create a safer and more sustainable future.

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