

European standards supporting the market for bio-based products



Baking sheet made of bio-based plastic

Bio-based products represent an important part of the bio-economy, which is seen as a major source of economic growth and employment for Europe in the 21st Century. The advantages of bio-based products may include additional functionalities, a more efficient use of natural resources, and other environmental benefits. CEN is developing standards that will support the growth of the bio-based products market by increasing transparency and boosting consumer confidence.

Bio-based products are products that are wholly or partly derived from biomass: material of biological origin, such as from trees, plants or animals. The biomass may have undergone some kind of physical, chemical or biological treatment before being turned into a product.

Bio-based products can be either material, intermediate, semi-finished or final products. Specific examples of bio-based products include disposable tableware (cups, plates, bowls, etc.), cleaning products (detergents, softeners, etc.), personal hygiene products (soaps, shampoos, etc.), solvents and paints, plastics, lubricants and floor coverings.

One of the main reasons for the increasing level of interest in bio-based products is the fact that these products may contribute to a more efficient use of natural resources, which is a necessary condition for creating a more sustainable economy. The global market for bio-based products is expanding every year, and the sector represents an increasingly important source of employment in Europe and worldwide.

Standards have a crucial role to play in supporting the growth of the bio-based products market. In particular, they can help to increase market transparency by providing common reference methods and requirements that enable the verification of claims regarding the bio-based content, bio-degradability or environmental sustainability of different products.

The European Commission has identified that standards for bio-based products are needed in order to promote the uptake of these products by consumers, facilitate the functioning of the Single Market, and enable public authorities to implement 'green procurement' policies*.

CEN is developing European Standards and other deliverables covering horizontal aspects of bio-based products, and also in relation to specific types of bio-based products. These voluntary standards are being developed through a process of collaboration among experts and representatives from business and industry, research bodies, public authorities and agencies, consumer and environmental groups, and other interested stakeholders.

* Innovating for Sustainable Growth: A Bioeconomy for Europe (COM(2012) 60), European Commission, 2012.

CEN ACTIVITIES IN RELATION TO BIO-BASED PRODUCTS

In the area of bio-based products, CEN cooperates closely with the European Commission in order to develop standardization activities that correspond to the objectives of European Union policies, whilst also meeting the needs of industry and other stakeholders.

In 2008, the Commission asked CEN to elaborate a standardization programme for bio-based products (EC Mandate 429), in the framework of the 'Lead Market Initiative' (COM (2007) 860). Responding to this request, CEN produced a report that identified specific standardization needs, including the need to develop horizontal standards.

In line with CEN's recommendations, the Commission issued a new request for the development of horizontal standards and other standardization deliverables for bio-based products (EC Mandate 492), which was accepted by CEN in 2011.

Within CEN, a number of different Technical Committees (TCs) are involved in managing standardization activities that relate to bio-based products.

HORIZONTAL STANDARDS

The CEN Technical Committee 'Bio-based products' (CEN/TC 411) develops standards that cover horizontal aspects of bio-based products. The standards that are being developed in the framework of EC Mandate 492 are mainly focused on bio-based products other than food and feed or biomass for energy applications.

European Standards and other standardization deliverables have been or are being developed in relation to the following horizontal aspects of bio-based products:

- Common terminology (EN 16575)
- Methods for determining bio-based content (CEN/TR 16721, CEN/TS 16640, EN 16785)
- Sustainability aspects (EN 16751)
- Life Cycle Assessment (EN 16760)
- Declaration tools

"A future bio-economy in Europe will critically depend on a wide range of products derived from biomass that are both of sufficient quality to satisfy the market and are verifiably sustainable. This requires the establishment of effective and comprehensive horizontal standards for all bio-based products."

Prof. James Clark (University of York)
ECOS representative in CEN/TC 411



EUROPEAN STANDARDS AND OTHER CEN DELIVERABLES

CEN produces different types of technical documents (deliverables), which are developed by experts taking part in Technical Committees and Working Groups.

- A **European Standard (EN)** is a voluntary standard developed through a process of consensus, based on input from industry and other stakeholders, including a public commenting period (enquiry) that is open to all interested parties. Once a European Standard has been formally adopted by CEN, it must be published as an identical national standard by CEN Members in 33 countries, and any conflicting national standard must be withdrawn.
- A **Technical Specification (TS)** is developed when there is no immediate need or not enough consensus for an EN, or where technology is not mature enough and the subject matter is still under technical development.
- A **Technical Report (TR)** is a document containing information in relation to a particular topic, which is not suitable for publication as an EN or a TS.

STANDARDS FOR SPECIFIC TYPES OF PRODUCTS

Within CEN there are 4 different Technical Committees which are involved in developing European Standards and other deliverables in relation to specific types of bio-based products including lubricants, polymers, solvents and surfactants.

Standardization work in relation to bio-lubricants and bio-polymers (requested by the European Commission under EC Mandate 430) has resulted in the adoption of a number of Technical Reports and Technical Specifications, which provide a basis for the further development of European Standards to be adopted in the next few years.

- **CEN/TC 19 - Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin** has produced a Technical Report (CEN/TR 16227) on terminology and characterisation of bio-lubricants and bio-based lubricants. This TR is being used as a basis for developing a European Standard on criteria and requirements (prEN 16807).
- **CEN/TC 249 - Plastics** has produced a Technical Report (CEN/TR 15932) with recommendations for terminology and characterisation of bio-polymers and bio-plastics. It has also produced Technical Specifications on how to determine and declare the bio-based carbon content of plastics (CEN/TS 16137, CEN/TS 16295), as well as a template for reporting and communication of bio-based carbon content and recovery options of bio-polymers and bio-plastics (CEN/TS 16398).

Meanwhile, standardization activities in relation to bio-solvents and bio-surfactants (requested by the European Commission under EC Mandate 491) are also ongoing.

- **CEN/TC 276 - Surface Active Agents** is preparing a draft standard on bio-based surfactants.
- **CEN/TC 411 - Bio-based products** is preparing a Technical Specification regarding requirements and test methods for bio-based solvents (CEN/TS 16766), which will provide a basis for developing a European Standard.



"In order for Europe to drive the bio-based economy forward, stimulating innovation and the creation of new jobs, clear standards on bio-based products are instrumental."

Fredric Petit (DSM)
Chairman of CEN/TC 411

OVERVIEW OF CEN TECHNICAL COMMITTEES WORKING IN THE AREA OF BIO-BASED PRODUCTS

CEN/TC 19
Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin

- Bio-lubricants (EC Mandate 430)

CEN/TC 276
Surface Active Agents

- Bio-surfactants (EC Mandate 491)

CEN/TC 249
Plastics

- Bio-polymers (EC Mandate 430)

CEN/TC 411
Bio-based products

- Horizontal standards (EC Mandate 492)
- Bio-solvents (EC Mandate 491)

For more information about European Standardization activities in relation to bio-based products, and additional information (including terms and definitions), please see the CEN website: www.cen.eu/go/bio

HOW TO GET INVOLVED

Participation in the standardization process allows stakeholders to have a say on the content of draft standards, and enables them to be better informed about developments relating to standards that may be relevant to their area of interest or sector of activity.

Companies, public bodies and other (national) organizations wishing to participate in CEN activities should contact the CEN Member (National Standardization Organization, or NSO) in their country. Through the NSO, they can participate in the national mirror committee, which is responsible for providing input to the relevant CEN Technical Committee (TC) at European level.

A full list of CEN Members can be found on the CEN website: www.cen.eu

European or international organizations and other stakeholders wishing to participate in standardization activities at European level may apply to become a CEN Partner or Liaison Organization.

For further information, please contact: partners@cencenelec.eu

ABOUT CEN

The European Committee for Standardization (CEN) is officially recognized by the European Union (EU Regulation 1025/2012) as a European Standardization Organization (ESO) responsible for developing and defining standards at European level.

The Members of CEN are the National Standardization Organizations of 33 European countries including all of the EU member states, three EFTA countries (Iceland, Norway and Switzerland), Turkey and the former Yugoslav Republic of Macedonia.

CEN and its Members work with various stakeholders – including industry, SMEs, consumers and other societal stakeholders, public sector bodies, academics and researchers – to develop voluntary European Standards (ENs) and other standardization deliverables.

CEN works in partnership with the International Organization for Standardization (ISO) to coordinate their respective activities and enable the alignment of European and international standards. Around a third of CEN standards are identical to ISO standards.



CEN – European Committee for Standardization
Avenue Marnix 17 – 1000 Brussels – Belgium
info@cencenelec.eu | www.cen.eu | www.cencenelec.eu

