



SLOVENSKI STANDARD
oSIST prEN 17615:2021
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Polimerni materiali - Okoljski vidiki - Slovar

Plastics - Environmental Aspects - Vocabulary

Kunststoffe - Umweltaspekte - Vokabular

Plastiques - Aspects environnementaux - Vocabulaire

Ta slovenski standard je istoveten z: prEN 17615

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ICS:

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|-----------|--|---|
| 01.040.83 | Gumarska industrija in industrija polimernih materialov (Slovarji) | Rubber and plastics industries (Vocabularies) |
| 13.020.01 | Okolje in varstvo okolja na splošno | Environment and environmental protection in general |
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English Version

Plastics - Environmental Aspects - Vocabulary

Plastiques - Aspects environnementaux - Vocabulaire

Kunststoffe - Umweltaspekte - Vokabular

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 249.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 17615:2020) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

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Introduction

The need for harmonized terms and definitions in the field of plastics relating to environmental aspects is growing. This document intends to give a common set of terms and definitions and thus strives to facilitate the communication and development of standards in this area.

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1 Scope

This document specifies terms and definitions in the field of plastics related to any environmental aspects and provides a common vocabulary basis for:

- biodegradability;
- bio-based plastics;
- carbon and environmental footprint;
- plastics in natural environments;
- recycling, e.g. mechanical and chemical recycling ;
- design ;
- waste management;
- circular economy.

This document aims to provide a comprehensive glossary which uses the applicable definitions providing when appropriate additional notes to make these definitions understandable without reference to other documents. Definitions are as far as possible adopted from existing standards but when the intention or definition is unclear additional context or definitions are updated or added.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

The term “bioplastic” is not defined in this text, since EN 17228 states the following:

The terms “biopolymers” and “bioplastics” are commonly used to identify polymers and plastics that are either bio-based, biodegradable, or feature both properties. While these definitions are quite widespread and used by industry, it is recognized that they are susceptible to misunderstanding and thus inappropriate for standardization purposes.

3.1

accelerated-ageing test

short-term test designed to reach more rapidly the natural ageing state for a material, following an identical mechanism of the physico-chemical processes that occur during longer-term service conditions

prEN 17615:2020 (E)**3.2****activated sludge**

biomass produced in the aerobic treatment of waste water by the growth of bacteria and other microorganisms in the presence of dissolved oxygen

Note 1 to entry: It is used in the composting of plastics waste.

[SOURCE: EN ISO 472:2013, 2.1712]

3.3**aerobic biodegradation**

biodegradation under aerobic conditions

[SOURCE: CEN/TR 15351:2006, c) 2]

3.4**additives**

substances which are used to process or to modify end use properties of plastics

Note 1 to entry: Mentioned substances are normally included in carrier matrix.

Note 2 to entry: Mentioned final use properties are e.g. rigidity, flexibility, colour etc.

3.5**ageing**

irreversible chemical and physical processes in a plastic material under the influence of one or more environmental factors leading to undesirable change in properties

Note 1 to entry: Examples of physical processes include extraction and evaporation.

3.6**agglomerate**

larger particles formed by joining or binding together of smaller particles whose original identity can still be visible in the final form

Note 1 to entry: Agglomerates can be supplied for further processing in the form of free-flowing material.

3.7**amorphous polymers**

polymers that do not exhibit any crystalline structures in X-ray or electron scattering experiments

Note 1 to entry: Amorphous polymers can produce transparent clear products while crystalline polymers do not.

3.8**anaerobic biodegradation**

biodegradation under anaerobic conditions

[SOURCE: CEN/TR 15351:2006, c) 3]

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3.9**anaerobic digestion**

process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobic and facultative bacteria species, that convert the inputs to a methane rich biogas and digestate

Note 1 to entry: In a second phase, the digestate is typically stabilized by means of a composting (aerobic) process.

[SOURCE: ISO 18606:2013, 3.10]

3.10**antioxidant**

substance that inhibits or delays the oxidation of polymers mainly by scavenging the peroxy radical intermediates in the oxidation process

Note 1 to entry: mainly by scavenging the peroxy radical intermediates in the oxidation process.

3.11**assembling**

fabricating operations involved in joining parts together by mechanical means, adhesives, heat sealing, welding or other means

[SOURCE: EN ISO 472:2013, 2.63]

3.12**assembly**

unit or structure composed of a combination of materials or products, or both

[SOURCE: EN ISO 472:2013, 1272]

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3.13**assimilation**

uptake of nutrient molecules from the environment by (micro)organisms and incorporation in the biomass

Note 1 to entry: Assimilation is a key process in biodegradation.

3.14**average molar mass****average relative molecular mass**

average of the molar mass or relative molecular mass of a polydisperse polymer

Note 1 to entry: The unit gram per mole is recommended in polymer science for molar mass since then the numerical values of the molar mass and the relative molar mass of a substance are equal.

Note 2 to entry: Three types of average commonly used are number-average, mass-average and viscosity-average.

[SOURCE: EN ISO 472:2013, 2.598]

3.15**bale**

compacted plastics waste to facilitate handling, storage and transportation

prEN 17615:2020 (E)**3.16****baling**

process in which plastics waste is compacted and secured as a bundle to facilitate handling, storage and transportation

[SOURCE: EN ISO 472:2013, 2.1678]

3.17**batch**

quantity of material regarded as a single unit, and having a unique reference

Note 1 to entry: "Batch" is primarily a processing term.

[SOURCE: EN ISO 472:2013, 2.1679]

3.18**beach plastic litter**

plastic litter found on beaches

Note 1 to entry: This is a subcategory of marine plastic litter, as beach plastic litter is not identical with marine plastic litter. Beach studies are not necessarily representative of marine plastic litter.

3.19**bioavailability**

status of a plastic item that can be processed by biodegrading cells

[SOURCE: CEN/TR 15351:2006, d) 8]

3.20**bio-based**

derived from biomass

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Note 1 to entry: Biomass can have undergone physical, chemical or biological treatment(s).

Note 2 to entry: The correct spelling of "bio-based" is with a hyphen (-). It is however in common usage sometimes spelt without a hyphen.

[SOURCE: EN 17228:2019, 3.1]

3.21**bio-based carbon****biogenic carbon**

carbon derived from biomass

[SOURCE: EN 16575:2014, 2.2 - modified: Note 1 to entry deleted.]

3.22**bio-based carbon content**

fraction of carbon derived from biomass in a product

Note 1 to entry: There are several approaches to express the bio-based carbon content. These include as a percentage of: the mass; the total carbon content, or the total organic carbon content of the sample. These are detailed in the relevant standards of CEN/TC 411.

[SOURCE: EN 16575:2014, 2.3]

3.23**bio-based composite****biocomposite**

composite material wholly or partly derived from biomass

[SOURCE: EN 17228:2019, 3.3 - modified, alternative term “biocomposite” added]

3.24**biobased mass content**

m_B

total amount of bio-based synthetic polymer, natural polymer, and bio-based additives in a product

Note 1 to entry: The total bio-based mass content in a product is expressed as a fraction or percentage of the sum of the bio-based synthetic polymer, natural polymer, and bio-based additives to the total mass of the product.

[SOURCE: ISO 16620-1:2015, 3.1.11]

3.25**bio-based plastic**

plastic wholly or partly derived from biomass

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[SOURCE: EN 17228:2019, 3.4]

3.26**bio-based polymer**

polymer wholly or partly derived from biomass

[SOURCE: EN 17228:2019, 3.2]

3.27**biochemical oxygen demand****BOD**

mass concentration of the dissolved oxygen consumed under specified conditions by the aerobic biological oxidation of a chemical compound or organic matter in water

[SOURCE: ISO 14851:2019, 3.4 – modified: Note 1 to entry removed.]

3.28**biocompatible**

compatible with human or animal tissues and suitable for medical therapy

[SOURCE: EN 17228:2019, 3.5]

prEN 17615:2020 (E)**3.29****biodegradability**

potential for biodegradation of a polymeric material that is converted to carbon dioxide (aerobic conditions) or biogas (anaerobic conditions), biomass and water by microorganisms during a fixed period in a given environment

3.30**biodegradable**

capable of undergoing biological aerobic or anaerobic degradation during a fixed period leading to a release of carbon dioxide and/or biogas and biomass, depending on the environmental conditions of the process

3.31**biodegradation**

breakdown of an organic chemical compound by microorganisms in the presence of oxygen to carbon dioxide, water and new biomass (mineralization), or in the absence of oxygen to carbon dioxide, methane, mineral salts and new biomass

3.32**biodegradation phase**

time, measured in days, from the end of the lag phase of a test until about 90 % of the maximum level of biodegradation has been reached

[SOURCE: EN ISO 472:2013, 2.1726]

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3.33**bio-disintegration**

physical breakdown of a material into very small fragments resulting from the action of microorganisms

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Note 1 to entry: The early phase of bio-disintegration is usually called "fragmentation".

3.34**bioerosion**

faster degradation at the surface than inside resulting from biodegradation

[SOURCE: CEN/TR 15351:2006, e) 3]

3.35**biological treatability**

potential of a material to be aerobically composted or anaerobically biogasified

[SOURCE: EN ISO 472:2013, 2.1727]

3.36**biomass**

material of biological origin excluding material embedded in geological formations or transformed to fossilized material and excluding peat

Note 1 to entry: Biomass includes organic material (both living and dead) from above and below ground, e.g. trees, crops, grasses, tree litter, algae, animals and waste of biological origin, e.g. manure.

[SOURCE: EN ISO 14021:2016, 3.1.1]

3.37**biomass content**

mass fraction of a product that is derived from biomass

Note 1 to entry: Normally expressed as a percentage of the total mass of the product.

Note 2 to entry: For the methodology to determine the bio-based content, see FprCEN/TR 16721

[SOURCE: EN 16575:2014, 2.8]

3.38**biomass origin**

geographic origin(s) of the biomass used for the production a bio-based plastic

Note 1 to entry: For example, country, territory or water body.

[SOURCE: EN 16848:2017, 3.1 - modified: "product" was exchanged by "plastic"]

3.39**biomass type**

type of biomass used to produce a bio-based product (e.g. plants, trees, algae, animals)

Note 1 to entry: Definition based on EN 16848:2017, 4.2.4.

3.40**bio-mineralization**

mineralization caused by cell-mediated phenomena

[SOURCE: CEN/TR 15351:2006, d) 3]

3.41**blowing agent**

substance used to cause expansion in the manufacture of hollow or cellular articles

Note 1 to entry: Blowing agents can be compressed gases, volatile liquids or chemicals that decompose or react to form a gas.

[SOURCE: EN ISO 472:2013, 2.82]

3.42**blow moulding**

manufacturing process of forming a molten tube (parison or preform) of thermoplastic material and placing it within a mould cavity and inflating the tube with compressed air, to take the shape of the cavity and cool the part before removing from the mould