TÜVRheinland®
DIN CERTCO
Precisely Right.

Certification Scheme

Biobased Products

in accordance with

ASTM D 6866

and/or

ISO 16620, Parts 1-3

(Edition: May 2020)

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DIN CERTCO was founded in 1972 by DIN Deutsches Institut für Normung e. V., is now part of the TÜV Rheinland Group and is the certification body for issuing DIN marks and other certification marks for products, persons, services as well as companies based on DIN standards and similar specifications. Due to its independence, neutrality, competence and many years of experience, DIN CERTCO enjoys a high reputation both at home and abroad.

In order to prove the functionality of the system and our competence as a certification body, we have been accredited, certified or recognised by independent domestic and foreign bodies in both the voluntary and legally regulated areas. Our accreditations.

In conjunction with the General Terms and Conditions of DIN CERTCO, this certification scheme forms the basis for suppliers of biobased products to mark their products with the certification mark “DIN-Geprüft biobased”.

The certification mark “DIN-Geprüft“ creates consumer confidence, by proving that an independent, neutral and competent body has carefully examined and assessed the product on the basis of the test criteria. Third-party monitoring ensures that, during the on-going production process, further the quality checks are conducted on the product is maintained. This monitoring gives added value to the customer, which he can take into consideration in deciding on his purchase.

Biobased products shall receive the certification mark “DIN-Geprüft” on meeting the requirements according to the procedures described in this certification scheme.

All certificate holders can be viewed in the certificate database of DIN CERTCO www.din-certco.tuv.com

Amendments

This certification scheme differs from the certification scheme “Biobased Products (2019-11) as follows:

a) Medical products Class 1 are now possible
b) Statement regarding Ecological Acceptability removed

Previous editions

Certification scheme “Biobased products” (2010-01)
Certification scheme “Biobased products” (2010-04)
Certification scheme “Biobased products” (2010-11)
Certification scheme “Biobased products” (2011-10)
Certification scheme “Biobased products” (2014-01)
Certification scheme “Biobased products” (2014-09)
Certification scheme “Biobased Products” (2015-11)
Certification scheme “Biobased Products” (2019-11)

INHALT

1 Introduction

With the increased interest in sustainability, the end user has an increasing demand for a transparent and objective identification of resource-saving, biobased raw materials.

Biobased is not to be confused with usual prefix “bio”, but actually describes the production from biomass, i.e. renewable organic raw materials.

This certification scheme and the associated certification mark enable manufactures to demonstrate the usage of renewable raw materials in the manufacture of their product throughout the supply chain. This will encourage consumers to choose sustainable products for their use.

Manufactures of biobased products can have their products certified based on this certification scheme and the DIN CERTCO General Terms and Conditions. The “DIN-Geprüft biobased” certification mark demonstrates that their products to meet the requirements of this certification scheme.

This scheme is partly based on definitions mentioned in DIN SPEC 1206. Compared with earlier versions, this certification scheme used declarations in accordance with the ISO 16620 series. Especially, declaration of biobased carbon content applies according ISO 16620-part 5.

2 Scope

This certification scheme applies to products which are fully or partly manufactured from biobased raw materials, and in conjunction with the basic documents mentioned below, it contains all of the requirements for awarding the “DIN-Geprüft biobased” certification mark.

It does not apply to products from the following areas:

– Medical products Classes Is, Im, Ir, IIa, IIb and III according to 93/42/EC of the Council and the MDR 2017/745, respectively.
– Fuels with fossil proportions
– Products which are poisonous, acidic, carcinogenic, mutagenic or harmful for the environment

Medical products Class I (without Is, Im, Ir according to the above mentioned regulations) with low risk can be certified according to this certification scheme on the basis of the quality property biobased with the certification mark “DIN-Geprüft biobased”. Hence, it applies only for such medical products, regulated by manufacturer’s self-declaration, not for such medical products approved by a Notified Body.

Analogue medical device classifications arising from medical device regulations for placing on the market in other areas of application outside the EU are separated and separately evaluated by a corresponding submission to the certification body.

The certification scheme presented here sets out the minimum requirements (see section 5) for the product itself as well as for the testing, monitoring and certification of same on the basis of the quality property biobased.

The certification scheme does not include an assessment or calculation of the eco-balance of the respective product.
The certification scheme does not confirm compliance with international, national or regional law for the marketing of the respective product in any target market.

This certification scheme quantifies the proportion of biobased raw materials; it does not certify that the product is compostable. This scheme does not specify where the raw material comes from and not how the product should be disposed off after use.

Parallel DIN certification schemes for Home & Industrial compostable products are available if required. Please contact DIN CERTCO for further information.

3 Basis for Testing and Certification

The following referenced documents are the basis for testing and certification. For dated references, only the edition citied applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM D 6866	Standard Test Method for Determining the Biobased Content of Solid, Liquid and Gaseous Samples Using Radiocarbon Analysis
DIN 18128	Baugrund – Untersuchung von Bodenproben – Bestimmung des Glühverlustes
DIN CEN/TS 15747	Feste Sekundärbrennstoffe – 14C-Verfahren zur Bestimmung des Gehaltes an Biomasse
DIN EN 14775	Feste Biobrennstoffe – Bestimmung des Aschegehaltes
DIN EN ISO 3451-1	Kunststoffe – Bestimmung der Asche – Teil 1: Allgemeine Grundlagen
DIN SPEC 1206	Kunststoffe – Terminologie und Charakterisierung von Biopolymeren und Biokunststoffen (DIN CEN/TR 15932:2010-06)
DIN CEN/TS 16295	Kunststoffe – Deklaration des Gehaltes an biobasiertem Kohlenstoff (technisch identisch mit DIN SPEC 16452)
ISO 16620 – 1	Plastics – Biobased content – Part 1: General principles
ISO 16620 – 2	Plastics – Biobased content – Part 2: Determination of biobased carbon content
ISO 16620 – 3	Plastics – Biobased content – Part 3: Determination of biobased synthetic polymer content
ISO 16620 – 4	Plastics – Biobased content – Part 4: Determination of the biobased mass content
ISO 16620 – 5	Plastics – Biobased content – Part 5: Declarations of the biobased carbon content, biobased synthetic polymer content and biobased mass content

– this certification scheme “Biobased Products”

– the General Terms and Conditions of DIN CERTCO

– the testing, registration and certification regulation of DIN CERTCO

– the respective schedule of fees of DIN CERTCO

4 Definitions

4.1 Organic Material

Organic materials are materials consisting of carbon compounds, e.g. vegetable-based and animal products. Organic compounds consist of aliphatic, annular or three-dimensional compounds between carbon atoms and other carbon atoms, hydrogen, oxygen or other elements. Products made of plant or animal material is always “organic”, e. g. plant fibers, mineral oil.

4.2 Organic Carbon

Organically bound carbon, which means carbon that is contained in organic material. In contrast is inorganic bound carbon, e. g. calcium carbonate. With the 2012 version of the standard ASTM D 6866 this difference in inorganic and organic carbon is taken into account. The standard ISO 16620 does not consider the difference.

4.3 Renewable Raw Material

Raw material, which needs a comparably time to be formed due to natural processes, as its usage as raw material (compare short and long carbon cycle), e. g. plant fibres.

[Source: CEN/TS 16295:2012]

4.4 Biomass

Organic material, which does not consist of inorganic substances and has not yet been incorporated into the fossil or geological record.

[Source: ISO 16620-1]

4.5 Biobased

Produced of biomass. Comparable descriptions:

- organic origin
- from renewable raw materials
- biogenic
- based on biomass

[According source: CEN/TS 16295:2012]

4.6 Biobased Proportion of Carbon

Proportion of biobased modern carbon in a sample, which was measured via ^{14}C-method. It is mostly shown in % by mass given in reference to the content of organic carbon

[According source: CEN/TS 16295:2012]

4.7 Biobased Materials

Consist of non-fossil organic compounds. Those may be natural (e. g. cellulose) or synthetic (e. g. polylactide acid).

4.8 Additive

Additives are materials which are added during the production process in order to achieve respective properties. Additives can be adhesives, printing inks, anti-blocking agent or similar.

4.9 Biobased Products

Biobased products consist partially or completely of biobased raw materials. They can also contain additives, inorganic fillers or organic fossil compounds.

4.10 Biocompatible Products

Are compatible with human or animal tissues, are not included in this certification scheme.

4.11 Biodegradable/compostable Products

Are, according to standards like DIN EN 13432, EN 14995, ISO 17088, ASTM D 6400, ISO 18606, AS 4736 biodegradable/compostable and meant to be disposed in an industrial composting plant, or, according to AS 5810 or NF T 51-800 “home compostable”. They are not included in this certification scheme.

4.12 Volatile Solids

Amount of solids obtained by subtracting the residues of a known amount of test material after incineration at about 550 °C from the total dry solids content of the same sample. The volatile solids content is an indication of the amount of organic matter. For example, the testing can be performed according to EN 13039 or DIN 18128. For liquid products “Procedure A”, Section 7.3 of DIN EN ISO 3451-part 1 can be used.

4.13 Total Dry Solids

Amount of solids obtained by taking a known amount of test material and drying at about 105 °C to constant weight.

4.14 Product Unit

A product can consist of several parts. Products with removable, movable or separate components are seen as product unit as long as they are generally perceived as one product (e.g. steering wheel/car, lid/yoghurt pot).

Individual components can also be certified. The labeling must be clear & concise in order to avoid misunderstandings.

A product unit may be covered by one certificate, if the biobased proportions of the individual products are within one quality level.

4.15 Product Family

Product group with largely the same product characteristics, e.g. the same material in different forms or dimensions, of which each product meets the following criteria:

- mostly the same basic form
- identical materials (identical composition)
- similar application
- different dimensions

A product family can only exist if the biobased proportions of the individual products are within one quality level.

4.16 ^{14}C-Method

The ^{14}C-method is an established procedure for determining the age of carbon based materials.

All animal and vegetable-based materials contain organic compounds. Fossil and biobased material is distinguished through the ratio of ^{14}C and ^{12}C carbon isotopes, which are carbon atoms with different mass numbers. Living biomass absorbs ^{14}C (radiocarbon) from the atmosphere during metabolization, this absorption is ceases on the death of the organism. The radiocarbon contained in the biomass starts to decompose from this point. Thus, the proportion of ^{14}C decreases continuously.

Depending on the material's age, there is a certain ratio of the ^{14}C and ^{12}C isotopes. Fossil products, i.e. crude oils, have a very high proportion of ^{12}C isotopes, as due to their age a large proportion of the radiocarbon has decayed. However, young biomass, i.e. products from renewable raw materials, has a higher proportion of ^{14}C isotope.

As the proportion of carbon isotopes can still be determined after the production process, a definite, traceable and independently verifiable distinction between fossil and biobased biomass is possible.

4.17 Total Carbon Content and Biobased Proportion in the Product

Often, a product consists of organic and inorganic proportions. For example, this applies to a composite material of biobased fibers, fossil synthetic proportions and inorganic compounds.

The organic proportion of a product is characterized by the volatile solids. This contains fossil and biobased carbon. For the above mentioned example the organic proportion consists of fibers and synthetic material.

The fibers are the biobased proportion. The carbon of the fibers is the biobased carbon.

The inorganic proportion is mentioned in Section 4.18 and is subtracted from the total carbon content.

4.18 Inorganic Proportion in a Product

In products made of paper, plastics or natural fibers often inorganic fillers and colorants are used, e.g. lime or other minerals. If these minerals contain inorganic carbon they decompose

to metal oxides and carbon dioxide. According to ASTM D 6866 this “fossil” carbon amount is detected and the total carbon content is corrected if the inorganic carbon content exceeds 3 %. Finally, this leads to a “corrected” amount of biobased carbon. Inorganic carbon content is not taken into account in ISO 16620.

4.19 Total organic and biobased carbon proportion of a product

This proportion is calculated according to the difference between **Fehler! Verweisquelle konnte nicht gefunden werden.** 4.17 and 4.18 (pMC = percent modern carbon):

$$pMC_{organic} = \frac{(pMC_{total}) - (Mass\ proportion\ Carbonate)(pMC_{carbonate})}{Mass\ proportion\ organic}$$

4.20 Biobased Carbon mass proportion of a product

Mass percentage of biobased carbon in the total carbon content

4.21 Examples of product groups

There is no specific allocation to product groups. Generally, all products which meet the required double minimum requirement and were mentioned in the application can be certified (see section 2).

Basically, the following four groups can be distinguished:

- Biological substances (enzymes)
- Substances which are chemically different to those of fossil origin (natural fibers, polylactic acid)
- Substances which are chemically identical to those of fossil origin (polyethylene from bioethanol, polyvinyl chloride (PVC) from sugar cane)
- Substances consisting of different substances (natural fiber plastics)

A distinction needs to be made here between biobased and biodegradable materials even when both are mostly named “biopolymer”. There are materials like polyethylene which can be biobased, e.g. based on bioethanol. However, due to their high stability they are not biodegradable or compostable according to DIN EN 13432 or even home compostable.

The following list is intended to illustrate this difference:

- biobased and biodegradable, e.g. polyesters formed by bacteria
- biobased and not biodegradable, i.e. polyethylene (PE) produced from bioethanol
- fossil origin and biodegradable, e.g. biodegradable plastics on crude oil basis
- fossil origin and not biodegradable, i.e. polyethylene (PE) produced from ethylene gas

5 Product requirements

Minimum requirements

Within the scope of testing according to this certification scheme, a double minimum requirement is specified. This consists of a minimum requirement of the product’s content of organic matter and the biobased proportion of the contained organic carbon.

The specified minimum organic proportion is 50 %.

The proportion of biobased carbon to total carbon (*) shall be ≥ 20 %.

On the basis of the biobased proportion, the following quality levels are distinguished:

Biobased carbon proportion of total carbon (*)	Certification mark
20 to 50 %	
50 to 85 %	
> 85 %	

(*) If the inorganic carbon proportion exceeds 3 % the biobased carbon content will be referred to the total organic carbon instead of the total carbon according to ASTM D 6866.

If the required minimum biobased carbon proportion of 20 % for certification is not reached, a notification of registration about the content of biobased carbon can be issued. This notification of registration lists the percentages of total biobased carbon with a registration number of kind 8X000. Additionally, if the assessment was performed according to ISO 16620 the mass proportion of biobased carbon and the proportion of total organic carbon are determined. A right to use the certification mark is not granted.

6 Testing

6.1 General Information

Testing consists of sampling the respective product from the production or from marketing/sales, and testing in a testing laboratory approved by DIN CERTCO. The test result will be recorded in a test report.

Sampling is usually done by the manufacturer or seller. Exceptions are, for example, special tests according to Section 6.2.4.

Parts of one product unit shall be tested separately. The type and scope of the test will be determined by the Certification Body in each individual case, where applicable after consultation with the testing laboratory.

6.2 Types of Test

6.2.1 Initial Type Test

The initial test is a type test (design test, type test), which serves to determine whether the product meets the requirements laid down in section 5 of this certification scheme.

Additionally the biobased product is surveyed every year during the validity of the certificate.

6.2.1.1 Determination of organic proportion

The organic proportion of the product is identified by determination of the volatile solids.

If applicable, alternative test methods can be defined by DIN CERTCO in cooperation with the testing laboratory.

6.2.1.2 Determination of the proportion of biobased Carbon in a Product

Based on ASTM D 6866 and/or ISO 16620, testing for determining the proportion of biobased carbon is performed. The result is given in percentage, based on the total organic carbon content of the product. According to ISO 16620 the proportion of the total carbon content and the mass proportion of biobased carbon of the total carbon content shall be mentioned, respectively.

6.2.2 Verification Test

Verification testing is performed in the second and fourth year of validity and is intended to establish whether the certified product corresponds to the type-tested product in the production phase.
It is requested by DIN CERTCO and must be verified in due time by a test report. The results are assessed by DIN CERTCO.

Verification testing comprises the following:

- Testing marking of the product with the “DIN-Geprüft” mark and the associated registration number

- Determination of the organic proportions

- Determination of the biobased carbon proportion of the total carbon content according to the ^{14}C-method considering the inorganic proportion, if applicable, when assessed against ASTM D 6866.

- Testing whether the information given during initial certification still conforms to the product (dimensions, ingredients, …)

- For the assessment according to ISO 16620 additionally:

    a. Determination of the biobased mass proportion of the total carbon content

    b. Determination of the biobased carbon proportion of the total carbon content

The resulting costs are charged to the certificate holder once the verification tests are completed.

If the product is produced on multiple production sites (sub-licenses) the following rules apply:

- Verification testing is performed on products of all production sites

- Samples shall be labeled with the respective production site

Verification testing of production sites according to Section 7.2.2 is performed together with the verification testing of the main certificate. For sub-licenses without own production according to Section 7.2.1 no verification testing applies.

6.2.3 Supplementary Test

A supplementary test shall take place if additions, extensions or modifications (see section 7.10) are made to the certified biobased product, which may influence the products' conformity with the pertinent, fundamental requirements.

The type and scope of the supplementary test shall be laid down on a case by case basis by DIN CERTCO in conjunction with the testing laboratory.

6.2.4 Special Test

A special test is conducted if:

- defects are detected

- the production has been suspended for a period of more than 6 months

- required by DIN CERTCO - reasons to be specified

- requested in written form by a third party if a particular interest in the maintenance of proper conduct of market procedures in relation to competition or quality is involved.

The type and scope of special test is determined in line with the particular requirement on a case-by-case basis following consultation between DIN CERTCO and the testing laboratory.

If defects are found during a special test, the certificate holder must bear the costs of the special testing procedure.

If no defects are detected during special testing that has been carried out at the request of a third party, the costs will be charged to the third party in question.

6.3 Sampling

The samples used for initial and verification testing are usually provided to the testing laboratory by the manufacturer. The manufacturer bears the associated costs.

The number of samples required for product testing is agreed between DIN CERTCO and the testing laboratory unless it is already specified in the applicable test standards. It has to be secured that a representative sampling for the testing in accordance with Section 6 is ensured.

6.4 Test Report

The testing laboratory informs the client of the result of the tests by issuing a test report.

The original copy of the test report must be provided to DIN CERTCO and must generally have been issued within six months of the application being submitted. In individual cases, however, older test reports can be recognized if the testing laboratory confirms in writing the validity of the details in the test report.

The test report must comply with DIN EN ISO/IEC 17025 and shall contain the following information as a minimum requirement:

– name and address of the manufacturer

– name and address of the applicant (if this differs from the manufacturer)

– product name

– test standard with issue date

– type of testing (e.g. type testing, inspection mark testing, etc.)

– test date

– test results

– test report issue date, Name and signature of the person responsible for the test

Additional content to fulfil for the test reports is listed in ASTM D 6866 and ISO 16620, respectively. For synthetic biobased materials according to Section 4.7, especially for assessment according to ISO 16620 the calculations mentioned in ISO 16620 part 3 apply.

7 Certification

Certification in the context of this certification scheme comprises the conformity evaluation of a biobased product by DIN CERTCO based on test reports that have been issued by testing laboratories recognized by DIN CERTCO. This involves confirming that the products to be certified conform to the requirements listed in section 5, as well as subsequent monitoring.

A certificate is issued to confer the right to use the “DIN-Geprüft biobased” certification mark.

7.1 Application of Certification

The applicant may be the manufacturer under section 4 of the German Product Liability Act (ProdHaftG) or a distributor with written consent from the certificate holder to market the product on its own authority under the terms of the German Product Liability Act.

The applicant must provide the following documents to DIN CERTCO:

– original copy of the application for certification with legally binding signature

– up-to-date test report according to section 6.4 (please see section 6.2.1) in case that the testing was not arranged by DIN CERTCO

– construction drawing(s)

– description of the product and its usage

– list with all used components including mass percentages (%)

– a proof of harmlessness for the environment of all additives, e.g. Safety Data Sheet

– if applicable sample of the product

– confirmation of the applicant that all information provided are correct and complete

Once the application has been received by DIN CERTCO, the applicant is sent a confirmation which includes a procedure number and information about the further procedural process. This also requests any application documents that may be missing.

7.2 Sub-licences

According to DIN CERTCO's General Terms and Conditions, the rules governing logo use and logo usage guidelines, sub-licences are necessary if certified products are intended to be brought onto the market on behalf of companies other than the main certificate holder. Holders of valid sub-licenses are also entitled to use the protected “DIN-Geprüft biobased”-mark. The entitlement to use the mark is dependent on the existence of the respective (main) certificate of the sub-license.

7.2.1 Sub-licences without Self-Production

It is possible to issue sub-licenses for all manufactured items as defined in this certification scheme. They facilitate bringing certified/registered manufactured items into circulation on behalf of the sub-license holder. Sub-licenses are dependent upon the validity of the main certificate/notifications of registration. Manufactured items may not be changed (e.g. printed) by sub-license holders. Exceptions to this are packaging seals, batch number printing and best before dates.

7.2.1.1 Documents and information needed if the applicant is holder of the main certificate

a) Application form for sub-licenses with main certificate holder's stamp and signature.

b) Sub-license holder's declaration that the main certificate holder's products enter into commercial trade without being changed.

7.2.1.2 Documents and information needed if the applicant shall be the holder of the sub-licence

a) Application form for sub-licenses with sub-license holder's stamp and signature.

b) Declaration of confirmation from the main certificate holder that a sub-license shall be issued.

c) Sub-license holder's declaration that the main certificate holder's products enter into commercial trade without being changed.

A sub-license can be issued

- With its own individual registration number.

- With the main certificate holder's registration number.

7.2.2 Sub-licences for Product Facilities

Sub-licenses for productions facilities may be issued for certified/registered manufactured items. They facilitate bringing certified/registered manufactured goods into circulation on behalf of the production facility's owner. Sub-licenses are dependent upon the validity of the main certificate / notifications of registration.

The production facility owner must produce the manufactured items according to the specifications indicated by the holder of the main license.

7.2.2.1 Documents and information needed if the applicant is holder of the main certificate

a) Application form for sub-license with main certificate holder's stamp and signature.

b) Forwarding of a datasheet completely filled out by the production facility operator.

c) Declaration from the production facility operator that the products are being manufactured according to the main certificate's stipulations.

7.2.2.2 Documents and information needed if the applicant is holder of the sub-licence

a) Application form for sub-license with production facility’s stamp and signature.

b) Declaration of confirmation from the main certificate holder that a sub-license shall be issued.

c) Forwarding of a datasheet completely filled out by the production facility operator.

7.3 Conformity Assessment

DIN CERTCO carries out an evaluation of conformity based on the application documents that have been provided, particularly, the test report is used to evaluate whether the product meets the requirements of the certification scheme and the applicable standard.

DIN CERTCO informs the applicant in writing of any possible nonconformity.

7.4 The certificate and the Right to use the Mark

After successful testing and conformity assessment of the submitted documents, DIN CERTCO issues a certificate to the applicant and awards the right to use the certification mark “DIN-Geprüft biobased” in conjunction with a corresponding registration number.

Quality Grade:	**> 85 %**	**50 – 85 %**	**20 – 50 %**
			
Format of Registration No.:	**8CXXX**	**8CXXX**	**8CXXX**

Biobased products for which the right to use the certification mark “DIN-Geprüft biobased” has been awarded, have to be marked with the certification mark "DIN-Geprüft biobased" and the registration number, respectively.

The certificate’s annex states the percentage of the total biobased carbon proportion related to the total carbon content according to ASTM D 6866 and the amount of volatile solids. For ISO 16620 the mass percentage of biobased carbon and the biobased organic carbon proportion are stated.

It needs to be ensured that there is a definite reference between certified product or certified component and mark.

The mark and the registration number may only be used for the certified type, component or a registered type of a certified product family for which the certificate has been issued.

In addition to this, the General Terms and conditions of DIN CERTCO and the testing, registration and certification regulations of DIN CERTCO apply.

7.5 Notification of registration for Biobased Carbon Content

As long as the proportion of biobased carbon in the product is lower than requested in Section 5.1, DIN CERTCO issues the applicant with a Notification of registration about the proportion contained. There is no right to use the mark. The registration number is of kind 8X000. If the respective proportion in the product is increased a notification of registration can be substituted with a certificate.

7.6 Publications

All certificate holders are listed in the certificate database of DIN CERTCO www.din-certco.tuv.com. Manufacturers, users and consumers use this research possibility for obtaining valuable information on certified products.

The contact details of the certificate holder (telephone, fax, E-mail, website) are published.

7.7 Validity of the Certificate/Notification of Registration

The certificates and notifications of registration are valid for 6 years. The period of validity is shown on the certificate. On expiry of the certificate, the right to use the mark also expires.

7.8 Renewal of the Certificate/Notification of Registration

If the certification is to continue beyond the expiry date shown on the certificate, an up-to-date, positive test report and an application for renewal must be submitted in good time to DIN CERTCO.

Proof of conformity with the requirements of the test and certification specifications according to section 5 shall be provided within the scope of an initial test according to section 6.2.1

7.9 Expiry of the Certificate/Notification of registration

In the event that the new standard conformity examination according to Section 5 has not been completed before expiry of the validity period, the right to use the certification mark "DIN-Geprüft biobased" and the registration number expires without the necessity for explicit notification from DIN CERTCO.

Furthermore, the certificate can also expire if:

– the surveillance according to section 7 is not performed punctually or completely,

– the certification mark "DIN-Geprüft biobased" is misused by the certificate holder,

– the requirements laid down in the certification scheme or its accompanying documents are not fulfilled,

– the certification fees are not paid on the due date

– the prerequisites for the issuing of the certificate are no longer fulfilled

7.10 Alteration/Amendment

7.10.1 Alterations/Amendments of the product

The certificate holder is obliged to promptly notify DIN CERTCO of any alterations to the product. The testing laboratory in conjunction with DIN CERTCO shall decide on the scope of an examination that shall be conducted according to section 6.2.3 and whether it is a matter of a substantial alteration. The respective testing report shall be forwarded to DIN CERTCO by the test laboratory.

Should DIN CERTCO determine a substantial alteration, the certificate with the corresponding registration number shall expire. For the modified product, a new application for initial certification or an application for amendment authorising the use of the certification mark "DIN-Geprüft biobased" shall be submitted.

The certificate holder remains obliged to notify of any changes in the formal details (e.g. certificate holder or his address).

The certificate holder may apply to DIN CERTCO for an extension of the existing certificate for further design-types of a product family. It is for DIN CERTCO to decide whether these amendments require an examination.

The design-types shall be entered in the certificate for the already certified product and, provided that the conditions are fulfilled, shall be regarded as an integral part of same.

7.10.2 Alterations to the Basic Test Specifications

In case the test standards are changed, DIN CERTCO decides whether it is necessary to change the certification scheme and specifies a deadline by which the respective requirements are to be implemented.

8 Testing Methods

8.1 Volatile Solids

Determination of the volatile solids content is performed by suitable means, e.g. according to DIN 18128 or EN 13039.

Samples degrading below 100°C or losing their chemical composition (e.g. by evaporation or decarboxylation) can be tested according to DIN EN ISO 3451-Part 1, where applicable after consultation of the certification body and the testing laboratory.

8.2 ^{14}C-Content

According to the standard applied different detection methods can be used:

8.2.1 According to ASTM D 6866

Method B: Accelerator Mass Spectrometry (AMS).

Method C: Liquid-Scintillation Counter, LSC; „Benzene-Method“

8.2.2 According to ISO 16620 – Teil 2

Method A: Liquid-Scintillation Counter (LSC);

Method B: Beta-Ionization (BI);

Method C: Accelerator Mass Spectrometry (AMS).