



DPC: 24 / 30459713 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Responsible Committee Secretary: **Ms Dawn Hunter (BSI)**

Direct tel:

E-mail: dawn.hunter@bsigroup.com

Introduction

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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 17317

Biodiversity - Requirements and guidelines for the characterization of products based on native species

ICS: 13.020.20

ISO/TC 331

Secretariat: **AFNOR**

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Aspects related to the sustainable management of natural resources	3
4.1 Biodiversity conservation and management	4
4.1.1 General aspects	4
4.1.2 Native species collection	4
4.1.3 Cultivation of native species	5
4.1.4 Forest and other ecosystems management	5
4.2 Conservation of aquatic systems	5
4.3 Phytosanitary measures	6
4.4 Greenhouse gas management	6
4.5 Market requirements	6
4.6 Sustainable ecosystem management	7
4.7 Sustainable use of primary forests as an area of interest	7
4.8 Products based on native species originating in forests and other ecosystems	7
4.9 Land-use changes	7
4.10 Engagement with local communities	8
4.11 Land tenure and rights	8
4.12 Respect and conservation of traditional knowledge and practices	8
4.13 Personnel health and safety	8
5 Prioritisation of the product: Risks and opportunities from a market perspective	8
5.1 General	8
5.2 Market analysis	8
5.3 Market intelligence	10
6 Product characterization	11
6.1 General	11
6.2 Literature review and systematization	12
6.2.1 Step one: Botanical and/or fundi identification	12
6.2.2 Step two: Prospecting	12
6.2.3 Step three: Properties	13
6.2.4 Step four: Databases	14
6.3 Native species and Products based on native species identification	15
6.3.1 General	15
6.3.2 Morphology and physical characteristics	16
6.3.3 Composition	16
6.3.4 Sensory characteristics	17
6.3.5 Microbiology	17
6.3.6 Contaminants	18
6.4 Methodology	18
6.4.1 Methodological framework for determining quality parameters and their categories	18
6.4.2 Laboratory Methods and Metrology	24
6.5 Documents and publication of results	25
7 Biodiversity responsible value chain	25
7.1 Monitoring of biodiversity: Habitats, key indicator species & impacts of agricultural practises	25
7.1.1 General	25
7.1.2 Monitoring the development of biodiversity	26
7.1.3 Monitoring of biodiversity performance of the supply chain	27

ISO/DIS 17317:2024(en)

7.2	Respecting limit values to avoid overexploitation.....	27
7.3	Minimize negative impacts of production, transport, logistic, consumption.....	27
7.4	Traceability from the shop to the origin.....	28
7.5	Information and awareness raising of consumers.....	28
Annex A (Informative) Examples for measuring elements of biodiversity.....		30
Bibliography.....		32

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 331, Biodiversity.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document was developed for the characterization of products based on native species, enhancing the sustainable cultivation or production of these products and the conservation of their ecosystems. Also, this guide contributes to Quality Infrastructure that supports efforts in biodiversity conservation. Native species are part of “natural capital” and their commercialization can only be assured on a long term, if the multilateral environmental agreements related to biodiversity are fully implemented¹⁾. Furthermore, commercialization with local communities’ engagement is promoted.

In this document, it is assumed that endemic species and native species are related terms but refer to different concepts: while both terms relate to the natural occurrence of species in specific areas, endemic species are uniquely confined to a single geographic area, whereas native species are those naturally found within a region but may also occur elsewhere. This is the reason why endemic species are typically vulnerable to extinction because their restricted distribution makes them more susceptible to habitat loss, environmental changes, and other threats.

Divided in 7 clauses, this document describes the aspects related to the sustainable management of natural resources given in [clause 4](#), these could positively support conservation efforts and the sustainable use of ecosystems. Followed by [clause 5](#) the prioritization of products based on native species considered of global commercial interest that require standardization to protect their genetic value and encourage sustainable international trade.

Globally, consumers demand many products based on native species due to their origin, nature and natural properties, which offer nutritional and aesthetic benefits. Native species products have been considered in the production of foods and cosmetics, as well as other goods. This document describes in [clause 6](#) the characterization of native species products in order to meet this commercial demand in a sustainable way and compatible with conservation efforts, and to guarantee the quality and safety of native species products. Starting, with the review and systematization of available literature on the physical, morphological and compositional characteristics, as well as nutritional and sensory properties of the native species, needed for establishing physical, chemical and biological requirements or specifications. [Clause 7](#) refers to biodiversity protection along the whole value chain of products based on native species. This includes a long-term monitoring to avoid the overexploitation, avoiding or minimizing negative impacts during the production and transport of goods and negative impacts by the use of these products.

Biodiversity is the basis for life on earth and therefore, protection and sustainable management of resources that concern biodiversity must be a priority. This includes the genetic value of native species and related ecosystem services. Harnessing biodiversity resources and services, through their sustainable use, benefits their conservation, while contributing to equitable social and economic growth.

In order to safeguard a sustainable commerce that is free from technical barriers to trade in products based on native species, it is necessary to establish requirements to the native species. Those could be determined in a various stage to the value chain, from raw material collection or production, through transformation into end products, up to the final consumption or use of these products. Establishing native species products requirements contributes to develop native products standards which facilitates access to foreign markets through a systematic approach that responds to market demand.

Many products based on native species are collected by micro, small and medium enterprises (MSMEs), and their processing and transformation provide income and economic growth opportunities. This document provides guidelines and criteria to facilitate the adequate characterization of these products. With this it supports the creation of technical standards adding value in the supply chain and contribute to the sustainable growth of organizations such as MSMEs. Properly characterized native species and products based on native species, could lead to minimizing market barriers and contributing to efforts for conservation and sustainable use of biodiversity resources, in support of social and economic development.

In the context to determine market requirements, it is necessary to consider certain sustainability principles for the cultivation and collection of products from native species. These principles aim for a harmonious balance between economic viability and conservation of the environment. [Table 1](#) presents these principles, which should be considered to achieve a sustainable production, cultivation and collection of native species.

1) <https://www.informea.org/en/treaties/biological-diversity>

Table 1 — Sustainable cultivation and collection of products from native species

Cultivation		Collection of wild species
Agricultural production	Species from managed ecosystems	Collection from primary forests and other ecosystems
•Biodiversity Conservation and Management •Conservation of aquatic ecosystems and their basins •Phytosanitary measures •Greenhouse Gas Management •Market requirements	•Biodiversity Conservation and Management •Conservation of aquatic ecosystems and their basins •Phytosanitary measures •Greenhouse Gas Management •Market requirements	•Biodiversity Conservation and Management •Conservation of aquatic ecosystems and their basins •Market requirements

Biodiversity - Requirements and guidelines for the characterization of products based on native species

1 Scope

This document provides guidelines for the characterization of native species and products based on native species, which have been collected, harvested and/or processed, to enable the establishment of minimum quality and safety requirements considering sustainable management of biodiversity. A special focus is on biodiversity protection along all steps of the value chain of those products.

Characterization of native species and products allows to determine requirements that have not been considered, providing this information to interested parties, including farmers, producers, exporters, importers and authorities, as well as consumers and users.

This document applies to native species and products based on native species from plants, algae and fungi collected or harvested. This document does not apply to native animal species and wood products.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/CD TS 13208, *Biodiversity - Vocabulary*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

CXS 234, *Recommended Methods of Analysis and Sampling*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/CD TS 13208 and the following apply.

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

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

3.1

acceptance or rejection criteria

evidence required for considering that requirements have been fulfilled or not

[SOURCE: ISO 22263:2008, 2.1 (modified: include rejection criteria)]

3.2

characterization of native species

description of the specific and inherent attributes, qualities or traits of a *native species* (3.5), such that it is distinguishable from other species

3.3

element

object being measured

[SOURCE: Scheaffer, et al, 2007, 2.1]

3.4

endemic species

species for which the entire global range is strictly limited to a specified region or locality

[SOURCE: ISO/CD TS 13208]

3.5

native species

indigenous species

fauna, flora, fungi, algae, and microbial species that occur naturally in a given area

[SOURCE: ISO/CD TS 13208]

3.6

primary forest

forest that has never been logged or cut and has developed following natural disturbances and under natural processes, regardless of its age

[SOURCE: ISO 34101-2:2019, 3.17]

3.7

products based on native species

product wholly or partly derived from *native species* ([3.5](#))

3.8

sample

subset of a population made up of one or more sampling units

[SOURCE: ISO 2859-5:2005, 3.15]

3.9

sample size

number of sampling units in a *sample* ([3.8](#))

[SOURCE: ISO 2859-5:2005, 3.16]

3.10

sampling plan

predetermined procedure for the selection, withdrawal, preservation, transportation, and preparation of the portions removed from a population as a sample

[SOURCE: ISO 16559:2022, 3.173]

3.11

target population

set of individuals on which research is carried out and about which it expects to obtain conclusions. It can refer to the total number of productive units in a certain location or the total production of each productive unit

[SOURCE: DANE 2014, modified]

3.12

unit of observation

observation unit

element ([3.3](#)) or group of elements about which information is obtained

[SOURCE: Vivanco, 2005]

4 Aspects related to the sustainable management of natural resources

This clause describes some aspects to be considered for sustainable management of natural resources in relation to the different origins where native species are obtained. Firstly, there is agricultural production that involves the controlled and planned cultivation of these native species. Second, ecosystem management, which promotes sustainable management to ensure the conservation of native species. Finally, wild collection, which refers to the direct obtaining of native species from nature. These activities should result in effective biodiversity conservation.

It is important to mention the relationship between the characterization of native species and the responsible use and sustainable management of natural resources. For this purpose, [Table 2](#) presents some key aspects to facilitate the sustainable value chain of products based on native species in harmony with biodiversity conservation.

Table 2 — Key aspects for a sustainable and biodiversity responsible value chain for products from native species

Risks and opportunities from a market perspective	Product development	Sustainably produced raw material (native species)	Biodiversity responsible value chain
Market Analysis: Analysis of all commercial and market related aspects such as similar products on the market, potential target groups, strenghts and weaknesses of the product and potential risks	Characterization of the product: basic characteristics the product must meet to ensure compliance with the requirements of the target market	- <u>Biodiversity responsible cultivation, production and collection of raw material</u> - <u>Engagement with local communities</u> - <u>Respect for traditional knowledge, and land tenure and ownership of native people and communities</u> - <u>Personnel health and safety, continuous training and inclusivity</u>	- <u>Monitoring of cultivation, production, and collection</u> - <u>Development of habitats and key indicator species & impacts of agricultural practices</u> - <u>Respecting limit values for cultivation, production, collection of raw material to avoid overexploitation</u> - <u>Minimize negative impacts of production, transport, consumption of the product</u> - <u>Traceability from the shop to origin</u> - <u>Information and awareness raising of consumers related to value of biodiversity</u>

As a first step, it should be clarified whether the native species to be used are covered by CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). If this is the case, the species may

not be used or may only be used in accordance with the requirements of CITES and a license from the responsible authorized national Management Authority.

NOTE CITES is an international agreement between governments, currently signed by 184 parties. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. CITES provides a framework to be respected by each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level. This includes the designation of one or more Management Authorities in charge of administering the CITES licensing system and one or more Scientific Authorities to advise the Party on the effects of trade on the status of the species. CITES works by subjecting international trade in specimens of selected species to certain controls. All import, export, re-export and introduction from the sea of species covered by the Convention has to be authorized through a licensing system.

4.1 Biodiversity conservation and management

4.1.1 General aspects

To contribute effectively to biodiversity conservation, the potential impacts of native species collection, harvest or cultivation regarding the main drivers of loss of biodiversity need to be considered. These are land-use change, natural resources use and exploitation, pollution, invasive species and climate change. Contributions to the main drivers can occur along the whole value chain including processing, packaging, transporting and marketing of the final products. Decisions have to be made to avoid or to minimize all potential negative impacts on the environment.

In general terms a management plan aligned with biodiversity conservation, should consider the following:

- procedures for the conservation of flora and fauna within their natural habitat;
- protection of endemic, rare or threatened species or communities;
- identification and protection of historical, archaeological, cultural and social sites;
- identification of conservation areas set asides from ecosystem management activities that function to protect ecologically sensitive areas and landscape functions; and
- management of sustainable hunting and fishing activities, among others.

In the [subclause 7.1](#), it is given some examples for objectives, measures and indicators of a Biodiversity Management Plan.

4.1.2 Native species collection

All native species collected in or extracted from forests or from other ecosystems should only be used if their short-term and long-term conservation is secured and their extraction from nature does no obvious harm to other species or the environment. Every species responds differently to the pressures of wild collection and many factors contribute to the risk of unsustainable wild collection of target species. Therefore, the tasks associated with sustainable wild collection management vary.

It is critical to identify and to prevent risks of non-sustainable collection / use of native species. Ecological attributes such as distribution, regeneration or reproduction determine how resilient a given species is against collection pressure. For example, an endemic species is more susceptible to over-collection than a globally distributed one; a slow growing species more susceptible than a fast growing one.

The collection of native species should not take place if it is leading to substantial degradation of the habitat and/or overexploitation of the species. When the native species or their parts for collection are important food sources for certain animal species, the collection should have precautionary limits for not putting in danger these food sources. Native species should also not be collected if they are used in a traditional way by any local community and the collection for business reasons would compete directly with that. No collection should be encouraged when roads or other land-destroying infrastructures have to be built for the business of collecting.