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Textiles — Environmental aspects — Vocabulary

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Foreword

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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

To date, the terminology regarding environmental aspects used in the textile industry has not been standardized, causing confusion, ineffectiveness and worst case hindering sustainable practices in the textile sector. The global nature of the textile industry highlights the need for global as well as national standards, enabling a common understanding and facilitate trade. A common vocabulary can serve to reduce the risk of greenwashing, bringing value for actors aiming to be transparent as well as facilitating the development of trust among consumers. Stakeholders will benefit from a common terminology for addressing issues related to environmental aspects of textile products and processes.

This document contains definitions of terms widely used in the textile value chain in reference to environmental aspects. ISO Guide 82 has been taken into consideration when addressing sustainability in this document.

This document is applicable to all stakeholders in the textile value chain regardless of size and location.

The aim of this document is to enable future standardization work related to environmental sustainability in the textile value chain.

The list of terms is wide but not exhaustive. Definitions are as far as possible adapted from existing standards but when the intention or definition is unclear additional context or definitions are updated or added.

Textiles — Environmental aspects — Vocabulary

1 Scope

This document provides general terms and definitions used in the textile value chain related to environmental and circular economy aspects including design, production, retail, use and reuse, recycling processes, repair and disposal.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological 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 Terms related to textiles

3.1.1 General

3.1.1.1
biodegradable material
material capable of undergoing biological aerobic or anaerobic *degradation* (3.2.7.5) during a fixed period leading to a release of carbon dioxide and/or biogas and *biomass* (3.1.2.4), depending on the environmental conditions of the process

Note 1 to entry: Some countries have laws or regulations about claims using “biodegradable”.

3.1.1.2
blended fabric
fabric produced with a combination of two or more types of different *textile fibres* (3.1.1.12), or yarns

3.1.1.3
fibre composition
amount of fibre (s) used in making a textile product

Note 1 to entry: Fibre composition is expressed by mass percentage.

3.1.1.4
fibre shedding
mechanical, biological, chemical and photochemical or any other process

Note 1 to entry: Other process includes production and use, dyeing, washing, drying, ageing, etc.

3.1.1.5
monomer
chemical compound, usually of low molecular mass, that can be converted into a polymer by combining it with itself or with other chemical compounds

[SOURCE: ISO 472:2013, 2.624]

3.1.1.6
mono material textile
textiles made of *textile fibres* (3.1.1.12) which is only composed of single type of chemical composition

EXAMPLE A woven fabric made of 100 % cotton yarn.

Note 1 to entry: One fibre type can consist of different chemical compositions. For example, polyamide-6 is a different material than polyamide-6.6.

3.1.1.7
mono material textiles product
textile product (3.1.1.13) made of *textile fibres* (3.1.1.12) and other components, which is only composed of single type of chemical composition

Note 1 to entry: Any additional chemicals (such as dyes or finishes) do not change the mono material textile product.

3.1.1.8
multi material textile
textiles made of *textile fibres* (3.1.1.12) or materials made from more than one chemical composition

EXAMPLE 1 Bi-component fibres are a multi material textile.

EXAMPLE 2 Multi material textiles are e.g. intimate blend of polyester and cotton fibre, different fibres in warp and weft or a polyurethane coated polyester fabric.

3.1.1.9
multi material textiles product
textile product (3.1.1.13) made of *textile fibres* (3.1.1.12) and other components consisting of materials made from more than one chemical composition

EXAMPLE A jacket containing a pure cotton fabric, with a polyester sewing thread, a zipper with a polyester fabric and a polyoxymethylene hard parts (teeth, stoppers, and puller), a polyester woven label and metal press buttons.

Note 1 to entry: Any additional chemicals (such as dyes or finishes) do not change the multi material textile product.

3.1.1.10
primary material
virgin raw material
material which has never been processed into any form of end-use product

3.1.1.11
recycled fibre
non-virgin fibre
fibre that has been obtained from or processed through a *recycling* (3.2.6.32) process

Note 1 to entry: Claims of recycled fibre should only be made if the amount of *recycled content* (3.2.6.29) is stated and verified by a third-party *chain of custody* (3.2.4.4) certification.

3.1.1.12
textile fibre
unit of matter characterized by its flexibility, fineness and high ratio of length to maximum transverse dimension, which render it suitable for textile applications

[SOURCE: ISO/TR 23383:2020, 3.1]

3.1.1.13
textile product
product made mainly of *textile fibres* (3.1.1.12), yarns and/or fabrics and intended to be used, as such or in conjunction with other textile or non-textile elements

Note 1 to entry: These articles can contain non-textile parts, such as plastics (e.g. buttons and membrane or coatings) or metals.

[SOURCE: ISO/TR 23383:2020, 3.2, modified — "mainly" and Note 1 to entry has been added]

3.1.2 Terms related to natural fibre

3.1.2.1
bio-based
derived from *biomass* (3.1.2.4)

[SOURCE: ISO 16559:2022, 3.23]

3.1.2.2
bio-based content
fraction of a product that is derived from *biomass* (3.1.2.4)

[SOURCE: ISO 16559:2022, 3.24, modified — "fuel" has been replaced with "product"]

3.1.2.3
bio-based product
product wholly or partly derived from *biomass* (3.1.2.4)

Note 1 to entry: The bio-based product is typically characterized by the *bio-based* (3.1.2.1) carbon content or the *bio-based content* (3.1.2.2).

Note 2 to entry: Documentation proving source of material, either through traceability from the producer or from testing, is necessary and has been found suitable.

[SOURCE: ISO 16559:2022, 3.25, modified — Note 2 to entry has been added]

3.1.2.4
biomass
material of biological origin, excluding material embedded in geological formations or transformed to fossilized material and excluding peat

Note 1 to entry: This includes organic material (both living and dead) from above and below ground, e.g. trees, crops, grasses, tree litter, algae, animals and *waste* (3.2.7.15) of biological origin, e.g. manure.

[SOURCE: ISO 14021:2016, 3.1.1]

3.1.2.5
natural fibre
fibre which occurs in nature

Note 1 to entry: Natural fibres can be categorized according to their origin into animal, vegetable and mineral fibre.

[SOURCE: ISO 6938:2012, 2.1, modified – Second part of the definition given as Note 1 to entry]

3.1.2.6
natural polymer
biopolymer
polymer obtained from *biomass* (3.1.2.4), in which the polymer retains the original chemical structure and composition present in biomass (i.e. starch, cellulose, lignin or lignocellulose)

[SOURCE: ISO 16620-1:2015, 3.1.7, modified — biopolymer has been added as synonym]

3.1.2.7
organic fibre
natural fibres (3.1.2.5) grown according to the principles of *organic agriculture* (3.2.5.4)

Note 1 to entry: The farm needs certification to comply with USDA National Organic Program (NOP), Regulation (EC) 834/2007 & EU 2018/848, or any other organic standard that is approved in the IFOAM Family of Standards.

Note 2 to entry: Principles of *organic agriculture* (3.2.5.4) include avoiding or growing without the use of synthetic pesticides, insecticides, or herbicides and *GMOs* (3.2.5.1).

3.1.3 Terms related to man-made fibre

3.1.3.1
artificial fibre
manufactured fibre made by transformation of *natural polymers* (3.1.2.6)

Note 1 to entry: Artificial fibres are made of macromolecular material existing in nature.

[SOURCE: ISO/TR 11827:2012, 4.2.1, modified — Additional information has been moved to a Note to entry]

3.1.3.2
man-made fibre
fibre obtained by a manufacturing process

Note 1 to entry: The term "chemically manufactured" fibre can be named "manufactured" fibre or "chemical" fibre.

[SOURCE: ISO 2076:2021, 3.1]

3.1.3.3
microfibre
fibre with linear density less than 1 dtex or a diameter less than 10µm

3.1.3.4
microplastics
MP
material consisting of a solid polymer containing particles, to which additives or other substances may have been added, and where ≥ 1 % w/w particles have:

a) all sizes 100 nm ≤ x ≤ 5 mm; or

b) for fibres, a length of 300 nm ≤ x ≤ 15 mm and a length/diameter ratio >3.

Note 1 to entry: *Natural polymers* (3.1.2.6) are excluded (e.g. wool, cotton, silk) as are polymers that are (bio) degradable. Alignment with other textile standards on microplastics.

[SOURCE: ECHA - ANNEX XV Restriction Report - Microplastics, 22 August 2019,[46] par 1.2.2.1, modified on lower size recommended dimensions, by Commission Recommendation C/2022/3689 of 10 June 2022 on the definition of nanomaterial (OJ C 229, 14.6.2022, p. 1) and Note 1 to entry added]

3.1.3.5
regenerated fibre
fibres produced from naturally occurring polymers of cellulose or protein, where processing by dissolution is needed to convert them into fibre form

3.1.3.6
synthetic fibre
manufactured fibre made from synthetic polymers

Note 1 to entry: Synthetic fibres are made of macromolecular material which has been chemically synthesised.

[SOURCE: ISO/TR 11827:2012, 4.2.2, modified — Additional information has been moved to a Note to entry]

3.1.4 Terms related to chemical aspects

3.1.4.1
chemical content
presence of chemical substances in textiles and *textile products* (3.1.1.13)

Note 1 to entry: Chemical content includes residues from process chemicals, chemical substances added for function (finishes, pigment, softeners, water repellents, etc.) and chemicals used during transport, storage etc.

3.1.4.2
contaminant
substance or material whose inclusion complicates its processing, transport, sale, use or recovery

Note 1 to entry: The term "impurity" is a deprecated synonym of contaminant and should not be used.

Note 2 to entry: A contaminant may or may not be harmful to health or it may simply make something impure

Note 3 to entry: An intentionally added substance can become an unwanted substance at a different stage for example in recycling

3.1.4.3
contaminated textile
textile material containing unwanted substances not deliberately added

Note 1 to entry: Unwanted substances are, for example, chemical residues from production processes, exposure to chemicals during transport, contamination from use, contamination from mould, etc.

3.1.4.4
dilution effect
<chemicals> result of reducing the *chemical content* (3.1.4.1) in an individual textile by increasing the solvent amount

3.1.4.5
manufacturing restricted substances list
MRSL
list of chemical substances which are banned from intentional use for the production of textiles

3.1.4.6
pollutant
substance which either alone or in combination with other substances or through its products of *degradation* (3.2.7.5) or emissions can have a harmful effect on human health or the environment

[SOURCE: ISO 20670:2018, 3.51]

3.1.4.7
restricted chemical
chemical which has been banned or otherwise restricted

Note 1 to entry: The ban or the restriction can be by legislation or by private organisations.

Note 2 to entry: The restricted chemical is related to its use and/or presence in *textile products* (3.1.1.13) or processes.

3.1.4.8
substance free
claim made when the level of the specified substance is no more than that which would be found as an acknowledged trace *contaminant* (3.1.4.2) or background level

EXAMPLE Common statements of substance free are "Ni free", "azo free", "phthalate free", "PFAS free" or "PFC free".

Note 1 to entry: For insights to self-declared environmental claims and any explanatory statements, see requirements provided in ISO 14021:2016, 5.7.

Note 2 to entry: Substance X"-free is not relevant when it is no longer used or has never been used in the specific *textile products* (3.1.1.13) by any company.

[SOURCE: ISO 14021:2016, 5.4, modified — the term "free" has been removed]

3.2 Terms related to environmental aspects and circular economy

3.2.1 General

3.2.1.1
ecodesign
integration of *environmental aspects* (3.2.3.6) into product design and development, with the aim of reducing adverse *environmental impacts* (3.2.3.7) throughout a product's *life cycle* (3.2.3.9)

Note 1 to entry: Other terminology used worldwide includes Environmentally Conscious Design (ECD), Design For Environment (DFE), green design and environmentally sustainable design.

Note 2 to entry: Design for *recycling* (3.2.6.32) and design for *durability* (3.2.2.8) cover some of the aspects covered by ecodesign.

[SOURCE: ISO 14006:2011, 3.2.2, modified — Note 2 to entry has been added]

3.2.1.2
extended producer responsibility
EPR
environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's *life cycle* (3.2.3.9)

Note 1 to entry: An EPR policy is characterized by:

a) the shifting of responsibility (physically and/or economically; fully or partially) upstream towards the producer and away from government or municipalities;

b) the provision of incentives to producers to take into account environmental considerations when designing their products.

Note 2 to entry: An EPR can be only financial or can be financial and operational depending on national laws.

[SOURCE: ISO 24161:2022, 3.1.1.2]

3.2.1.3
greenwashing
unsubstantiated or misleading claim about the positive or negative *environmental aspects* (3.2.3.6) of a product, service, technology or company practice

[SOURCE: EN 17615:2022, 3.122]