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## Chain of custody — General terminology and models

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## 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 <a href="https://www.iso.org/directives">www.iso.org/directives</a>).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee [or Project Committee] ISO/TC [or ISO/PC] ###, [name of committee], Subcommittee SC,##, [name of subcommittee].

The main changes compared to the previous edition are as follows:

— XXX XXXXXX XXX XXX XXX

A list of all parts in the ISO ##### series can be found on the ISO website.

## Introduction

Understanding the origin of input materials, product components, product outputs and the conditions under which they are produced is becoming increasingly important. Producers want to demonstrate compliance with requirements regarding health and safety, as well as environmental, social and quality-related aspects, while consumers or other end users need to be able to trust the claims made for these products. The main drivers are government policies, consumer and business demand. Companies directly active in a Chain of Custody (e.g. producers, traders, manufacturers, logistic and transport service providers, retailers) as well as those investing in such companies (e.g. financial institutions, governments) need transparency to understand and manage risks, to secure quality and to facilitate the implementation of a reliable Chain of Custody system.

Chain of Custody systems have become an indispensable element of many different applications, such as certification schemes for food safety, sustainable agriculture, forestry, aquaculture or fisheries, social compliance, manufacturing, construction and mineral mining. They enable information associated with a product and/or production characteristics to be shared among various organizations active in the Chain of Custody such as material and ingredient suppliers, processors, contractors, transportation companies, (private) scheme owners, financial institutions, companies active in recycling and refurbishing, governmental organizations and consumers or other end users.

Although these many systems differ in scope and use terminology relevant to the sector and product specific needs, and might also diverge on semantics and presentation, they deal with the same challenges and are based on the same range of Chain of Custody models. The proliferation of systems and definitions is causing unnecessary confusion, complexity and inconsistency. It also reduces the degree of trustworthiness of information (e.g. related claims) and increases costs for organizations active in the Chain of Custody. These complexities and resulting costs can be a barrier to market access, especially for smaller companies and developing countries.

The aim of this document is to provide unambiguous definitions of the different Chain of Custody models and the corresponding requirements, which are independent of sectors, materials, products, and issues addressed. These requirements are applicable to any organization operating at any step in the supply chain. Chain of Custody models are also referred to as Chain of Custody methods or Chain of Custody concepts. In this document the term 'Chain of Custody models' is used. This multi sector globally applicable ISO document will serve as a reference point for existing and future Chain of Custody standards.

As each Chain of Custody model represents a different level of physical presence of the specified characteristic in the output, this document will provide general guidance on the application of the defined Chain of Custody models, including initial guidance on the circumstances under which each Chain of Custody model might be appropriate.

This document does not specify or recommend a management system. Users can refer to this document, clearly stating which models of Chain of Custody described in this document are used as a basis in their Chain of Custody systems.

## Chain of custody — General terminology and models

### 1 Scope

This document defines a framework for Chain of Custody by providing:

- a consistent generic approach to the design, implementation and management of Chains of Custody;
- harmonized terminology;
- the requirements for different Chain of Custody models;
- general guidance on the application of the defined Chain of Custody models, including initial guidance on the circumstances under which each Chain of Custody model might be appropriate;

This document is applicable to all materials and products.

This document can be used by any organization operating at any step in a supply chain, as well as by standard setting organizations as a reference point for specific Chain of Custody standards.

While this document can enhance the transparency of the reliability of specific claims regarding materials or products, it is not intended to be used on its own to make or verify such claims.

This document does not apply to services as final outputs

NOTE This document is not, on its own, able to support claims about an organization's materials or products. This would be misleading, especially to consumers, other end users and users of this document, as the existence of a Chain of Custody system alone does not specify the characteristics or the conditions under which materials or products are produced. This document includes requirements and guidance regarding this issue.

#### 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:

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

#### 3.1 Chain of Custody design related terms

#### 3.1.1

#### **Chain of Custody**

process by which inputs and outputs and associated information are transferred, monitored and controlled as they move through each step in the relevant supply chain

#### 3.1.2

#### Chain of Custody system

set of measures designed to implement a Chain of Custody, including documentation of these measures

Note 1 to entry: The purpose of a Chain of Custody system is to provide credibility that the given material or product has a set of specified characteristics.

Note 2 to entry: The information linked to materials or products is transferred, monitored and controlled throughout the entire supply chain or parts of it.

#### 3.1.3

#### **Chain of Custody model**

approach taken to control inputs and outputs and associated information in a particular Chain of Custody system

Note 1 to entry: A Chain of Custody model is typically designed to preserve a set of specified characteristics.

#### 3.2 Supply chain related terms

#### 3.2.1

#### supply chain

series of processes or activities involved in the production and distribution of a material or product through which it passes from the source.

Note 1 to entry: A supply chain is typically composed of a series of different organizations.

#### 3.2.2

#### input

material or product that enters an organization or part of an organization

[SOURCE: ISO 14044:2006+A1:2017 modified, the wording and note 1 to entry has been modified. Note 2 and 3 to entry have been added]

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Note 1 to entry: Input may be used at any stage of the supply chain.

Note 2 to entry: Input may also include recycled and reused materials or products.

Note 3 to entry: Input will have associated information.

## 3.2.3 output

material or product that leaves an organization or part of an organization

[SOURCE: ISO 14044:2001+A1:2017, 6 modified, wording and note 1 to entry has been modified. Note 2 and 3 to entry have been added.]

Note 1 to entry: Output can be created at any stage of the supply chain.

Note 2 to entry: Output might include other products resulting from production processes.

Note 3 to entry: Output will have associated information.

#### 3.2.4

**characteristic** distinguishing feature

[SOURCE: ISO 9000:2015, modified – Notes 1 to 3 to entry have been deleted]

#### 3.2.5

#### specified characteristics

set of product and/or production characteristics that the Chain of Custody is designed to maintain

#### 3.2.6 product characteristic

distinguishing feature of a material or product

Note 1 to entry: A product characteristic can be qualitative or quantitative.

#### 3.2.7

#### production characteristic

distinguishing feature of one or more production processes in the supply chain

Note 1 to entry: Production characteristics sometimes create product characteristics. Examples include the grinding of wood, the chemical treatment of wood for pulp production and food cooked at a low temperature. Examples of production characteristics that do not normally create a product characteristic include production according to a particular specification, such as the sustainable production of the material; the absence of child labour; particular human rights standards or the identity of the primary processor.

Note 2 to entry: production characteristics can include the type of transportation and storage.

#### 3.2.8

#### source

specific originator at a location of a material or product with a specified characteristic

Note 1 to entry: The originator is typically a specific supplier, but can also be a specific manufacturer or specific processor adding a particular characteristic.

#### 3.2.9

#### site

location with geographical boundaries at which defined activities under the control of an organization may be carried out

Note 1 to entry: Sites may comprise more than one geographical area.

Note 2 to entry: Activities may include material extraction, production, manufacturing, recycling, storage, trade and/or transportation.

#### 3.2.10

#### process

set of interrelated or interacting activities that use inputs to deliver an intended output

[SOURCE: ISO 9000:2015 modified – the word result has been replaced by output, Notes 1 to 6 to entry have been deleted]

Note 1 to entry: A process can include services.

#### 3.3 Chain of Custody models

#### 3.3.1

#### **Identity Preserved model**

Chain of Custody model in which the materials or products originate from a single source and their specified characteristics are maintained throughout the supply chain

#### 3.3.2

#### Segregated model

Chain of Custody model in which specified characteristics of a material or product are maintained from the initial input to the final output

Note 1 to entry: Addition of material with different characteristics and/or grade to the input is not allowed.

#### 3.3.3

#### **Controlled Blending model**

Chain of Custody model in which materials or products with a set of specified characteristics are mixed according to certain criteria with materials or products without that set of characteristics resulting in a known proportion of the specified characteristics in the final output.

Note 1 to entry: The adhered claim may refer to a certain percentage, at batch-level and /or site-level.

#### 3.3.4

#### **Mass Balance model**

Chain of Custody model in which materials or products with a set of specified characteristics are mixed according to defined criteria with materials or products without that set of characteristics.

Note 1 to entry: The proportion of the input with specified characteristics might only match the initial proportions on average and will typically vary across different outputs.

#### 3.3.5

#### **Book and Claim model**

Chain of Custody model in which the administrative record flow is not necessarily connected to the physical flow of material or product throughout the supply chain

Note 1 to entry: This Chain of Custody model is also referred to as 'certificate trading model' or 'credit trading'.

#### 3.4 Roles and Responsibilities

#### 3.4.1

organization entity or group of people and facilities with an arrangement of responsibilities, authorities and Full stan alleatalog relationships and identifiable objectives

[SOURCE: ISO 26000:2012]

Note 1 to entry: An organization may encompass multiple (production /geographical) sites. tandards

#### 3.4.2

#### top management

person or group of people who directs and controls an organization at the highest level

[SOURCE: ISO 9000:2015, Notes 1 to 3 to entry have been deleted]

#### 3.4.3

#### requirements setter

person or organization that specifies the requirements for a particular Chain of Custody

#### **Conformity assessment related terms** 3.5

#### 3.5.1

conformity fulfillment of a specified requirement

[SOURCE: ISO 9000:2015, wording modified]

#### 3.5.2

#### conformity assessment

evaluation whether the specified requirements related to an object are fulfilled or are not fulfilled

[SOURCE: ISO/IEC CD 17000:2018, 2.1, modified – Notes 1 to 3 to entry have been deleted.]

Note 1 to entry: three types of conformity assessment activity are used: first-party (3.5.3), second-party (3.5.4)and third-party (3.5.5).

#### 3.5.3

#### first-party conformity assessment activity

conformity assessment activity that is performed by the person or organization that provides or is the object of conformity assessment

[SOURCE: ISO/IEC CD 17000:2018, 2.2, modified – Notes 1 to 3 to entry have been deleted.]

#### 3.5.4

#### second-party conformity assessment activity

conformity assessment activity that is performed by a person or organization that has a user interest in the object of conformity assessment

[SOURCE: ISO/IEC CD 17000:2018, 2.3, modified – Notes 1 and 2 to entry have been deleted.]

#### 3.5.5

#### third-party conformity assessment activity

conformity assessment activity that is performed by a person or organization that is not the provider of the object and has no user interest in the object

[SOURCE: ISO/IEC CD 17000:2018, 2.4, modified – Note 1 to entry has been deleted.]

#### 3.5.6

#### audit

process for obtaining evidence and evaluating it objectively to determine the extent to which specified requirements are fulfilled

[SOURCE: ISO/IEC CD 17000:2018, 4.4, modified Notes 1 and 2 to entry have been deleted.]

#### 3.5.7

#### inspection

examination of an object of conformity assessment and determination of its conformity with detailed requirements or, on the basis of professional judgement, with general requirements

[SOURCE: ISO/IEC CD 17000:2018, 4.3, modified – Notes 1 to 3 to entry have been deleted.]

#### 3.5.8

#### verification

confirmation, through the provision of objective evidence, that specified requirements have been fulfilled

Note 1 to entry: The objective evidence needed for a verification can be the result of an inspection, audit or other forms of determination such as performing alternative calculations or reviewing documents.

Note 2 to entry: The activities carried out for verification are sometimes called a qualification process and can result in certification.

Note 3 to entry: The word "verified" is used to designate the corresponding status.

[SOURCE: ISO 9000:2015 modified, Note 2 to entry the wording has been modified]

#### 3.5.9

#### certification

third-party attestation related to objects of conformity assessment, with the exception of conformity assessment bodies

Note 1 to entry: Certification is applicable to all objects of conformity assessment except for conformity assessment bodies themselves, to which accreditation is applicable.

[SOURCE: ISO/IEC CD 17000:2018]

#### 3.5.10 claim

declared information regarding the specified characteristics of a material or product

#### 3.6 Traceability related terms

#### 3.6.1

#### traceability

ability to trace the history, application, location or source(s) of a material or product throughout the supply chain

[SOURCE: ISO 9000:2015 modified, the wording has been modified, Notes 1 and 2 to entry have been deleted]

#### 3.6.2

#### traceability system

manual or electronic system that provides the ability to access any or all information relating to that which is under consideration, throughout its life cycle, by means of accessing documented information.

Note 1 to entry: 'Life cycle' should be understood in the broadest possible sense, to include, for example, raw material extraction, agricultural production, final disposal, and reuse or recycling, as well as all other stages connected with product manufacture and use.

#### 4 Chain of Custody design

#### 4.1 General

Although frequently considered as interchangeable, the concepts of Traceability and Chain of Custody are not identical. The difference between these two concepts is described in <u>Annex A</u>.

A Chain of Custody system encompasses the set of measures supporting responsibility for the custody of materials and products as ownership or control is transferred from one organization to another within the relevant supply chain. A Chain of Custody usually involves more than one organization.

This document provides a framework and fundamental requirements for a Chain of Custody system. Depending on e.g. the specific claim, material, product or sector, further specific Chain of Custody requirements might need to be implemented. When using this document, the organization shall check and evaluate this need.

This document can enhance the transparency and reliability of specific claims regarding materials or products by providing common terminology and Chain of Custody models. However, this document shall not be used on its own to support claims about an organization's materials or products. This would be misleading, especially to consumers, other end users and users of this document, as the existence of a Chain of Custody system alone does not specify characteristics or the conditions under which products are produced and therefore cannot support such claims. Also, any communication associated with materials or products solely concerning conformity to this document shall be avoided, especially towards consumers and other end users.

In order to make claims about an organization's materials or products, rather than the Chain of Custody itself, further evidence on conformity with specified characteristics shall be provided.

When materials or products come with a claim of adherence to a certification scheme, which has its own Chain of Custody rules, e.g. third-party assessment as certification or verification, and an organization aims to use that claim for its materials or products, the rules of that scheme shall be followed unless that scheme allows the use of this document instead.

#### 4.2 Roles and responsibilities

The identification of actors (e.g. organizations), locations (including sites), inputs, outputs and associated information in the Chain of Custody is needed to implement any Chain of Custody model. Understanding which organizations play a role and sometimes their relationship to each other in the supply chain is important. In any Chain of Custody system, it is necessary to distinguish the various