



**International
Standard**

ISO 22002-5

**Prerequisite programmes on food
safety —**

**Part 5:
Transport and storage**

*Programmes prérequis pour la sécurité des denrées
alimentaires —*

Partie 5: Transport et stockage

**First edition
2025-07**



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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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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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

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 34, Subcommittee SC 17, *Management systems for food safety*.

This first edition cancels and replaces ISO/TS 22002-5:2019, which has been technically revised.

The main changes are as follows:

- the requirements in this document are applicable to transport and storage only;
- common requirements for the food, feed and packaging supply chain have been moved to new part of the series, ISO 22002-100, which is a requirement of this document.

A list of all parts in the ISO 22002 series can be found on the ISO website.

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

ISO 22000 sets out specific food safety requirements for organizations in the food chain. One such requirement is that organizations establish, implement and maintain prerequisite programmes (PRPs) to assist in controlling food safety hazards.

This document is intended to be used to support management systems designed to meet the requirements specified in ISO 22000 and sets out the detailed requirements for those programmes.

The storage system and the transportation network are integral elements in the food chain.

Supply chain actors, such as growers and food processors, rely on proper storage and transportation practices to ensure that their products arrive safely at the final destination and in good condition. The role of organizations involved in the transportation network is to protect foods, ingredients, raw materials and packaging in their custody during transport and storage.

This document is intended to be used to support management systems designed to meet the requirements specified in ISO 22000 and sets out the detailed requirements for those programmes related to transport and storage.

This document does not duplicate the requirements given in ISO 22000 and is intended to be used in conjunction with ISO 22000 and ISO 22002-100.

Prerequisite programmes on food safety —

Part 5: Transport and storage

1 Scope

This document specifies, in conjunction with ISO 22002-100, requirements for establishing, implementing and maintaining prerequisite programmes (PRPs) to control food safety hazards in transport and storage in the food chain, including cross-docking and transshipment activities.

This document is applicable to all organizations, regardless of size or complexity.

This document does not apply to live animals except when intended for direct consumption (e.g. molluscs, crustaceans and live fish).

This document does not apply to other parts of the food supply chain or in isolation.

Exclusions to requirements can be supported by a sufficient justification that ensures that the exclusion does not adversely impact food safety.

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 22002-100, *Prerequisite programmes on food safety — Part 100: Requirements for the food, feed and packaging supply chain*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22002-100 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

cross-docking

process by which *goods* (3.2) are unloaded, sorted, consolidated, loaded and shipped to the next destination without storage

3.2

goods

food, feed, animal food and packaging that are transported and stored within the food chain

3.3

hazardous substance

solid, liquid or gas that is radioactive, flammable, explosive, corrosive, oxidizing, asphyxiating, pathogenic or allergenic, including, but not restricted to, detergents, sanitizers, pest control chemicals, lubricants, paints, processing aids and biochemical additives, which, if used or handled incorrectly or in increased dosage, can cause harm to the handler and/or consumer

3.4

identifier

mark, tag, label or accompanying document, either assigned by an organization itself or by another organization upwards in the food chain that formed the logistic unit, uniquely identifying *goods* (3.2)

3.5

unpacked goods

goods (3.2) that are unwrapped or not stored in self-contained packaging, including large-scale logistic units such as vessels or road tankers

EXAMPLE Fresh produce in crates, shellfish in a mesh bag.

3.6

packed goods

goods (3.2) that are wrapped in a self-contained manner that prevents deterioration by external influences and maintains the integrity of goods, including goods in packaging that are intended for sale to consumers

EXAMPLE Carton boxes, drums, cans.

3.7

transshipment

shipment of *goods* (3.2) or containers to and from an intermediate destination

Note 1 to entry: One possible reason for transshipment is to change the means of transport during the journey (e.g. from ship transport to road transport), known as “transloading”.

4 Construction and layout of buildings

4.1 Boundaries of the site/facility

The requirements in ISO 22002-100 shall apply.

4.2 Environment

The requirements in ISO 22002-100 shall apply.

4.3 Construction and layout

The requirements in ISO 22002-100 shall apply.

5 Design and layout of facilities and workspaces

5.1 General

The requirements in ISO 22002-100 shall apply.

5.2 Internal structures and fittings

The requirements in ISO 22002-100 shall apply.

5.3 Location of equipment

The requirements in ISO 22002-100 shall apply.

5.4 Storage of food, packaging materials, ingredients and chemicals

The requirements in ISO 22002-100 shall apply.

6 Utilities

6.1 General

The requirements in ISO 22002-100 shall apply.

6.2 Water, ice and steam

The requirements in ISO 22002-100 shall apply.

6.3 Air and ventilation

The requirements in ISO 22002-100 shall apply.

6.4 Compressed air and other gases

The requirements in ISO 22002-100 shall apply.

6.5 Light

The requirements in ISO 22002-100 shall apply.

7 Pest control

7.1 General

The requirements in ISO 22002-100 shall apply.

7.2 Pest control programmes

The requirements in ISO 22002-100 shall apply.

7.3 Preventing access

The requirements in ISO 22002-100 shall apply.

7.4 Harbourage and infestations

The requirements in ISO 22002-100 shall apply.

7.5 Monitoring and detection

The requirements in ISO 22002-100 shall apply.

7.6 Control and eradication

The requirements in ISO 22002-100 shall apply.

8 Waste, FLW management and recycling

8.1 General

The requirements in ISO 22002-100 shall apply.

8.2 Recycling and/or reuse of materials

The requirements in ISO 22002-100 shall apply.

8.3 Waste containers

The requirements in ISO 22002-100 shall apply.

9 Equipment suitability and maintenance

9.1 General

The requirements in ISO 22002-100 shall apply.

9.2 Equipment capability

The requirements in ISO 22002-100 shall apply.

9.3 Maintenance

The requirements in ISO 22002-100 shall apply.

10 Management of purchased materials

The requirements in ISO 22002-100 shall apply.

11 Storage, including warehousing, and transport

11.1 Storage and warehousing

The requirements in ISO 22002-100 shall apply.

11.2 Dispatch

The requirements in ISO 22002-100 shall apply.

11.3 Transport

The requirements in ISO 22002-100 shall apply.

12 Measures for prevention of contamination

The requirements in ISO 22002-100 shall apply.

13 Cleaning and disinfection

13.1 General

The requirements in ISO 22002-100 shall apply.

13.2 Cleaning agents and tools

The requirements in ISO 22002-100 shall apply.

13.3 Cleaning and disinfection programmes

The requirements in ISO 22002-100 shall apply.

14 Personal hygiene and employee facilities

14.1 General

The requirements in ISO 22002-100 shall apply.

14.2 Hygiene facilities

The requirements in ISO 22002-100 shall apply.

14.3 Designated eating areas

The requirements in ISO 22002-100 shall apply.

14.4 Workwear and protective clothing

The requirements in ISO 22002-100 shall apply.

14.5 Health status

The requirements in ISO 22002-100 shall apply.

14.6 Personnel cleanliness

The requirements in ISO 22002-100 shall apply.

14.7 Personnel behaviour

The requirements in ISO 22002-100 shall apply.

14.8 Visitors and external providers

The requirements in ISO 22002-100 shall apply.

15 Product and consumer information

The requirements in ISO 22002-100 shall apply.

16 Food defence and food fraud

16.1 General

The requirements in ISO 22002-100 shall apply.

16.2 Food defence

The requirements in ISO 22002-100 shall apply.

16.3 Food fraud prevention

The requirements in ISO 22002-100 shall apply.

17 Additional requirements

17.1 Categorization

Product groups can be categorized as follows:

- a) unpacked goods, not temperature- and/or other condition-controlled;
- b) unpacked goods, temperature- and/or other condition-controlled;
- c) packed goods, not temperature- and/or other condition-controlled;
- d) packed goods, temperature- and/or other condition-controlled.

The practices applied by the organization during the transport and storage of goods shall be designed, documented and implemented to maintain appropriate storage conditions and integrity of goods.

17.2 Controlled conditions

The organization shall ensure appropriate conditions are maintained for food safety.

Where temperature and/or other conditions (e.g. filtration, humidity, microbiology of air) are applicable, a control system shall be put in place and monitored, as follows:

- a) A system shall be in place to alert the relevant personnel if the conditions deviate from the specified limits. Following the alert, appropriate corrections and corrective action shall be taken.
- b) Automated recording equipment should be used to monitor and document the conditions of the storage and loading area. In the absence of automated equipment, monitoring at an appropriate frequency shall be carried out and retained as documented information. Equipment used to hold goods at specified temperatures and other conditions shall be calibrated for its purpose.
- c) Where settings can be adjusted, measures shall be in place to verify the controlled-condition settings of the logistic unit.

Logistic units transporting goods under controlled conditions shall either:

- ensure the conditions are achieved prior to loading; or
- achieve the required conditions after loading without compromising the integrity of the goods.

Documented information on how to manage the load in transit shall be available, including actions to be taken in the event of a failure to achieve the specified conditions during transit.

NOTE See ISO 23412 for information.

17.3 Goods identification

NOTE Depending on the situation, “quantity” can be expressed in number of “logistic units” and “identification” can be expressed in “product category”.

17.3.1 The organization shall ensure that all logistic units and goods picked from logistic units, throughout the transport and storage process, are assigned with identifier(s). The identifier(s) shall enable the retrieval of information on the following:

- a) goods identification and quantity(ies);
- b) supplier(s) identification;
- c) date(s) of receipt of goods;
- d) expiry date(s)/use-by date(s), best-before date(s), if applicable;
- e) documented information regarding requirements for temperature and/or other controlled conditions during transport and storage, if applicable;
- f) nonconforming/quarantined goods;
- g) warnings in the case of hazardous substances.

17.3.2 Where logistic units are assembled by the organization, which may also include the mixing of different deliveries of goods in bulk and the picking of material from different logistic units, the organization shall retain information on the following:

- a) the time and date of the operation;
- b) the identifier(s) of the logistic unit(s);
- c) an inventory of stock of the logistic unit(s) before and after the operation.

17.3.3 The organization shall establish, implement and maintain measures to prevent the loss of identification of all or any parts of a logistic unit.

The organization shall retain documented information on the delivery of goods that shall include:

- a) the identification of the goods and quantity(ies);
- b) the identification of the goods received;
- c) the date of delivery;
- d) the identifier(s) of logistic unit(s);
- e) documented information regarding the temperature and/or other controlled conditions profile during storage/transport, if applicable.

Bibliography

- [1] ISO 22000, *Food safety management systems — Requirements for any organization in the food chain*
- [2] ISO 22003-1, *Food safety — Part 1: Requirements for bodies providing audit and certification of food safety management systems*
- [3] ISO 23412, *Indirect, temperature-controlled refrigerated delivery services — Land transport of parcels with intermediate transfer*



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