



NTA 8059

(en)

Prerequisite programmes on food safety for transport and storage

Basisvoorwaardenprogramma's op het gebied van voedselveiligheid voor transport en opslag

Replaces NTA 8059:2016 Ontw.

ICS 67.230
December 2016

VOORBEELD

Normcommissie 370 800 "Veedselveiligheidsmanagement"



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Foreword

An integral element in the food chain is the storage system and the transportation network. 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 the foods, ingredients, raw materials and packaging in their custody during transport and storage.

NEN-EN-ISO 22000 sets out specific food safety management system requirements for organizations in the food chain. One such requirement is that organizations establish, implement and maintain prerequisite programmes (PRP) 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 NEN-EN-ISO 22000 and sets out the detailed requirements for those programmes related to transport and storage.

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

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In this document:

- 'shall' indicates a requirement;
- 'should' indicates a recommendation;
- 'may' indicates a permission;
- 'can' indicates a possibility or a capability.

Information marked 'NOTE' is for guidance in understanding or clarifying the associated requirement.

Prerequisite programmes on food safety for transport and storage

1 Scope

This document specifies requirements for establishing, implementing and maintaining prerequisite programmes (PRPs), specifically for transport and storage in the food chain, to assist in controlling food safety hazards.

This document is applicable to all organizations, regardless of size or complexity, which are involved in transport and storage activities across the food supply chain, that wish to implement PRPs in such a way as to address the requirements specified in NEN-EN-ISO 22000.

This document is neither designed nor intended for use in other parts of the food supply chain or in isolation. However, this document may be applied by other organizations willing to develop codes of practice and other types of supplier-buyer relationships based on NEN-EN-ISO 22000.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NEN-EN-ISO 22000 *Food safety management systems – Requirements for any organization in the food chain*

3 Terms and definitions

For the purposes of this document, the terms and definitions of NEN-EN-ISO 22000 apply, as well as the following.

3.1

bulk

food ingredients or (semi)finished products that are not stored in any type of packaging

3.2

calibration

set of operations that establish, under specified conditions, the relationship between values of quantities indicated by measuring instruments or measuring systems, or values represented by a material or reference material, and corresponding values realized by standards

3.3

cleaning

removal of soil, food residue, dirt, grease or other extraneous matter

3.4

cleaning in place

CIP

cleaning of equipment by impingement or circulation of flowing chemical solutions, cleaning liquids and/or water rinses into, onto and over surfaces in equipment or systems without dismantling and designed for the purpose

3.5

cleaning out of place

COP

cleaning of equipment by disassembling and cleaning in a tank or in an automatic washer by circulating a cleaning solution

3.6

condition control

process in which change of atmosphere of a space (and objects collectively there within) is measured and adjusted

3.7

contaminant

biological, radiological or chemical agent, foreign matter, or other substance not intentionally added to food, which may compromise food safety or suitability

3.8

cross-docking

staging area where inbound materials are sorted, consolidated, and temporarily stored until the outbound shipment is complete and ready to ship to the final destination

3.9

disinfection

reduction of the level of microbiological contaminants on surfaces of equipment

3.10

distribution

provision of finished food products to a customer (e.g. retail outlets, shops, wholesalers)

3.11

first expired first out

FEFO

stock rotation based on the principle of dispatching earliest expiration dates first

3.12

first in first out

FIFO

stock rotation based on the principle of dispatching earliest received products first

3.13

food contact equipment

equipment that comes in contact with food during the normal course of operations and includes utensils and food-contact surfaces of equipment

3.14

food defense

protection of food products from intentional contamination or adulteration by biological, chemical, physical, or radiological agents to cause harm

3.15

hazardous substances

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

3.16

identifier

mark, tag, label or accompanying document, either assigned by the organization itself or by another organization upwards in the food chain that formed the logistic unit, uniquely identifying a product

3.17

integrity

state of a product being wholesome, entire, undiminished to meet specified or expected conditions

3.18**label**

printed matter that is part of the finished product package conveying specific information about the contents of the package, the food ingredients and any storage and preparation requirements

EXAMPLE The term covers, but is not limited to:

- a) the packaging itself, printed matter attached to the package, or a sticker used for over-labelling;
- b) multi-packs which have an inner label on the individual product and an outer combined label for the whole contents.

3.19**logistic unit**

unit used to store or distribute goods and materials

EXAMPLE The term covers but is not limited to: cases, pallets, containers, and silos.

3.20**loose goods**

food ingredients or finished products that are unwrapped or not stored in packaging that is designed to protect the product when it is sold to the consumer (e.g. fresh produce)

3.21**materials**

raw materials, packaging materials, ingredients, processing aids, cleaning agents, chemicals, and lubricants

3.22**pre-packaged goods**

products in their final packaging that is designed for sale to the consumer

3.23**product recall**

removal of a non-conforming product from the market, trade and warehouses, distribution centres and/or customer warehouses because it is (potentially) unsafe for consumption

3.24**specification**

detailed documented description or enumeration of parameters, including sampling plans and limits, which are capable of monitoring or verifying that a defined level of acceptability of quality is met

3.25**storage**

safekeeping of goods and materials in a depository (e.g. a warehouse)

3.26**temperature control**

process in which change of temperature of a space (and objects collectively there within) is measured and adjusted

3.27**traceability**

ability to retrieve origin, movement, location and/or destination of a product through specified stages of transport and storage

3.28**transshipment**

shipment of goods or containers to an intermediate destination, then to yet another 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.

3.29

transport

loading, transportation and unloading of goods by any distributor by road, rail, air, water or other shipping means

3.30

vehicle

device used for the transport of product by road, railway, air or water

3.31

waste

any substance or object that the organization discards or intends or is required to discard

4 Prerequisite programmes for transport and storage

4.1 General requirements

It is the responsibility of the organization involved with transport and/or storage of foods and materials to adopt best practices to assure the safety of the products that are handled.

The organization shall establish its PRPs relevant to the product category based on recognized industry codes of practice for which some examples are referenced in the NEN-EN-ISO 22000 standard for food safety management systems.

When establishing the PRPs on storage and/or distributed food items, the product groups can be categorized as follows:

- a) bulk, not temperature-/condition-controlled;
- b) bulk, temperature-/condition-controlled;
- c) pre-packed goods, not temperature-/condition-controlled;
- d) pre-packed goods, temperature-/condition-controlled;
- e) loose goods not temperature-/condition-controlled;
- f) loose goods, temperature-/condition-controlled.

The practices applied during transport and storage of food shall be designed, documented and implemented to maintain appropriate storage conditions and product integrity. Foods shall be loaded, distributed and unloaded under conditions suitable to prevent cross-contamination, including:

- a) microbiological contamination and/or growth (e.g. bacterial growth resulting from temperature abuse of products that require temperature control);
- b) physical contamination (e.g. glass contamination from broken lights, wood splinters from pallets, dust, splashing during transfer, pests);
- c) chemical contamination (e.g. product tainting, cleaning chemicals);
- d) radiological contamination (e.g. excessive use of radiation to prevent microbiological growth);
- e) physical damage (e.g. breakage, puncturing of packaging, water damage);
- f) allergenic materials (e.g. cross-contamination of loose product or outer packaging by allergenic products).

Food transport and storage operations are diverse in nature and not all of the requirements specified in this NTA apply to an individual site or process. Where exclusions are made or alternative measures implemented, these shall to be justified by an assessment. Any exclusions or alternative measures adopted shall not affect the ability of the organization to comply with these requirements.

4.2 Facilities

4.2.1 External layout

Sites shall be designed, constructed and maintained in a manner appropriate to the nature of the transport and storage operations to be carried out, and the likelihood of food contamination.

Sites shall be of durable construction to minimize the likelihood of food contamination.

Sites shall be of durable construction which presents no hazard to the product.

EXAMPLE An example of 'durable construction' is self-draining roofs which do not leak.

The site boundaries shall be clearly identified.

The site shall be maintained in good order. Vegetation shall be tended or removed. Roads, yards and parking areas shall be drained to prevent standing water and shall be maintained.

Consideration shall be given to potential sources of contamination from the local environment (e.g. odour, dust, radiation), particularly with loose, unpacked goods.

Food storage should not be carried out in areas where potentially harmful substances could enter the product.

The effectiveness of measures taken to protect against potential contaminants shall be periodically reviewed.

Canopies should be provided over loading areas. Where canopies are provided, they shall be easy to clean and be constructed in a manner that deters birds.

The canopies should be of adequate size to protect product, packaging or other materials during handling in adverse weather conditions.

4.2.2 Internal layout and workspace

4.2.2.1 Internal design, layout and traffic patterns

Internal layouts shall be designed, constructed and maintained to facilitate good hygiene supported by transport and storage practices. The movement patterns of materials, products and people, and the layout of equipment, shall be designed to protect against potential contamination sources.

The site shall provide adequate space, with a logical flow of materials, products and personnel, and physical separation proportionate to the likelihood of (cross-)contamination.

EXAMPLE Examples of physical separation include walls, barriers or partitions, or sufficient distance to minimize risk.

Openings intended for transfer of materials shall be designed to minimize entry of foreign matter and pests. All openings shall be closed when not in use.

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