

# PAS 221:2013

## Prerequisite programmes for food safety in food retail – Specification



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# Foreword

This PAS was sponsored by Delhaize Group. The development of this PAS was facilitated by BSI Standards Limited and it was published under licence from The British Standards Institution. It came into effect on 13 February 2013.

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This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

## Use of this document

It has been assumed in the preparation of this PAS that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

## Presentational conventions

The provisions of this PAS are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

*Commentary, recommendations, explanation and general informative material are presented in smaller italic type, using the heading NOTE, and do not constitute normative elements.*

## Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with this PAS does not in itself confer immunity from legal obligations.**

**Users of this PAS need to be familiar with all relevant regulations and legislation in force in the territories of operation where this PAS will be applied (see BS EN ISO 22000:2005, 7.22).**

# Introduction

BS EN 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.

Although food retail varies significantly in its nature, this PAS is addressed at organizations that retail food at all levels, whether they are supermarkets with branches internationally, convenience/drug stores with a large national network, or independent local stores/butchers or bakers.

As all food retailers need to manage their food safety risk, this PAS provides a HACCP, risk-based approach to food retail that is applicable across the entire retail sector.

This PAS is intended to be used by food retail organizations to support management systems designed to meet the requirements for PRPs specified in BS EN ISO 22000, and it sets out the detailed requirements for those programmes.

This PAS does not address food catering; please see ISO/TS 22002-2.



## 1 Scope

This PAS specifies requirements for establishing, implementing and maintaining prerequisite programmes (PRPs) to assist in controlling food safety hazards.

This PAS is applicable to all organizations, regardless of size or complexity. This PAS is not a management system standard and is intended to be used by food retailing organizations that wish to implement PRPs in such a way as to address the requirements specified in Clause 7 of BS EN ISO 22000:2005. It is not intended to be used in isolation.

This PAS is neither designed nor intended for use in other parts of the food supply chain.

Food retailing operations are diverse in nature and not all of the requirements specified in this PAS apply to an individual establishment or process.

Where exclusions are made or alternative measures implemented, these need to be justified by a risk assessment. Any exclusions or alternative measures adopted should not affect the ability of the organization to comply with these requirements.

The requirements of this PAS are designed for retailers who sell food.

**NOTE 1** *Examples of such retailers include, but are not limited to:*

- *supermarkets;*
- *hypermarkets;*
- *convenience stores;*
- *cash and carry;*
- *mass/club stores;*
- *food halls in department stores;*
- *bakeries, butchers, etc.*

**NOTE 2** *For food safety in restaurants/catering facilities in general, refer to ISO/TS 22002-2.*

## 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.

BS EN ISO 22000:2005, *Food safety management systems – Requirements for any organization in the food chain*



## 3 Terms and definitions

For the purposes of this PAS, the terms and definitions given in BS EN ISO 22000:2005 and the following apply.

### 3.1 certificate of analysis (CoA)

document provided by a supplier which indicates results of specific tests/analysis, including test methodology, performed on a defined lot/batch of the supplier's product

### 3.2 cleaning

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

[Adapted from Codex Alimentarius [1], 2.3]

### 3.3 cleaning in place (CIP)

system that cleans solely by circulating and/or flowing chemical detergent solutions and water rinses by mechanical means onto and over surfaces to be cleaned

*NOTE An example of this would be the method used, in part, to clean and sanitize a frozen dessert machine, oven or dishwasher.*

### 3.4 cleaning out of place (COP)

system where equipment is disassembled and cleaned in a tank or, in an automatic washer, by circulating a cleaning solution and maintaining a minimum temperature throughout the cleaning cycle, or using a combination of the above with hoses or pressure sprays

*NOTE An example of this would be equipment such as band saws, meat slicers or mixers that are subjected to COP manual cleaning without the use of CIP.*

### 3.5 contaminant

any biological and/or chemical agents, foreign matter or other substances, which might compromise the safety and integrity of the food product

### 3.6 contamination

introduction or occurrence of a contaminant (see 3.5) or process which causes adulteration in food or food environment

### 3.7 disinfection

reduction, by means of chemical agents and/or physical methods, of the number of micro-organisms in the environment, to a level that does not compromise food safety

### 3.8 equipment

article that is used in the operation of food retail premises

*NOTE 1 Equipment may include: freezer, grinder, hood, ice maker, meat block, mixer, oven, reach-in refrigerator, scale, sink, slicer, stove, table, thermometers, etc.*

*NOTE 2 Equipment does not include apparatus used for handling or storing large quantities of packaged foods that are received from a supplier in a cased or over-wrapped lot/batch, such as hand trucks, forklifts, dollies, racks and skids.*

### 3.9 first expired first out (FEFO)

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

### 3.10 first in first out (FIFO)

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

### 3.11 label

printed matter that conveys specific information about the contents of the food product

*NOTE This includes, but is not limited to:*

- a) *the package 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;*
- c) *point of sale display material/signage.*



### 3.12 material/product specification

detailed documented description or enumeration of parameters, including permissible variations and tolerances, which are required to achieve a defined level of acceptability or quality

### 3.13 materials

raw materials, packaging materials, ingredients, process aids, cleaning materials and lubricants

### 3.14 product contact

surfaces that are in contact with the exposed product (food) or the primary package during normal operation

### 3.15 ready-to-eat food (RTE)

food that is in a form that is edible without additional preparation to achieve food safety based on law or recognized industry practices

***NOTE** This can include raw or partially cooked animal food as allowed by law when the consumer is advised of the hazards associated with that food such as consuming raw, molluscan shellfish.*

### 3.16 retail premises

building under direct full or partial control of the retailer, in which food is stored, prepared, packaged, served, vended, sold, or otherwise provided for consumption

### 3.17 sanitation

all actions dealing with cleaning or maintaining hygienic conditions in an establishment, ranging from cleaning and/or sanitizing of specific equipment to periodic cleaning activities throughout the establishment (including building, structural, and grounds cleaning activities)

### 3.18 sanitizing

process of cleaning, followed by the application of cumulative heat or chemicals on cleaned food contact surfaces that, when evaluated for efficiency, is sufficient to yield a reduction of 5 logs, which is equal to a 99.999% reduction of representative disease micro-organisms of public health significance



## 4 Retail premises and exterior surroundings

### 4.1 General

Retail premises shall be designed, constructed and maintained in a manner appropriate to the nature of the food production, storage and retail delivery operations to be carried out, including the food safety hazards associated with those operations, and the potential sources of contamination from the operations generally carried out within the retail premises. The premises shall be designed and constructed to protect against hazards to the food product. Any additional construction or remodelling shall be assessed to protect against potential food safety hazards.

**NOTE** For example, roofs should be self-draining and not leak, and doors, windows and vents should be properly maintained.

### 4.2 Exterior surroundings of retail premises

The grounds, facilities and local environment, within the control of the retailer, surrounding the retail premises shall be designed, constructed and maintained in a condition to minimize food safety hazards.

**NOTE** Food retailing/production should not be carried out in areas where potentially harmful substances could enter the product.

Access to the retailer-restricted food product receiving areas and exterior retailer-restricted food product storage areas shall be controlled.

Vegetation shall be removed where it presents a hazard to food safety.

Retailer-restricted access yards and parking areas shall be drained to prevent standing water and shall be maintained in a manner which reduces food safety hazards.



## 5 Layout of retail premises and workspace

### 5.1 General

Internal layouts shall be designed, constructed and maintained to minimize food safety hazards.

The movement patterns of materials, food products and people, and the layout of food production, storage and other equipment, shall be designed to protect against potential contamination sources.

### 5.2 Internal design, layout

Food processing and handling areas shall be designed and managed to minimize cross-contamination risks.

**NOTE 1** *Strong preference is given to physical separation measures such as walls, barriers or distance, so as to create separation between raw products and cooked/ready to eat foods.*

**NOTE 2** *Where no physical separation methods are in place, refer to 11.3 for cleaning and sanitation requirements to minimize the risk of contamination.*

Doors and other openings intended for transfer of food and non-food products and related materials shall be designed to minimize entry of contaminants including pests.

### 5.3 Internal structures and fittings

Food handling, processing, serving and storage area surfaces, walls, ceilings and floors shall be cleanable and maintainable to reduce food safety hazards. Surface materials shall be resistant to the cleaning systems applied.

Wall/floor junctions and corners, including equipment junctions and corners, shall be designed to facilitate cleaning.

**NOTE 1** *It is recommended that wall/floor junctions are rounded/curved in food processing areas.*

Standing water shall be prevented in areas where food safety may be impacted.

Wet food process areas surfaces and floors shall be sealed and drained. Drains shall be trapped and covered.

**NOTE 2** *An example of wet food process areas may be iced fish counters.*

Overhead fixtures and fittings in food processing areas shall be cleanable and designed to minimize accumulation of dirt and condensation.

External opening doors, windows, roof vents or fans in production and storage areas shall be closed or screened (e.g. insect screens, air curtains).

**NOTE 3** *This might not apply to separated office areas.*

### 5.4 Location of equipment

Food processing, handling and storage equipment and cabinets shall be designed and located so as to enable good hygiene practices.

Location of equipment shall permit access for hygienic operation, cleaning and maintenance.

### 5.5 Temporary structures

Temporary structures including, but not limited to, food stands, processing facilities, selection displays and vending equipment shall be designed, constructed and located to avoid potential contamination of food products.

### 5.6 Storage of food, packaging materials, ingredients and non-food chemicals

Retailer-restricted facilities used to store ingredients, food products, packaging and other food-related products shall be protected from sources of adulteration and contamination.

Dry storage areas shall be adequately ventilated.

Control and monitoring of temperature and humidity shall be applied, where necessary, to maintain the product integrity.

Storage areas shall be designed or arranged to segregate non-compatible products and materials, unprocessed, part-processed and finished products.

All materials and products shall be stored off the floor and with sufficient space between the products and materials and the walls to allow inspection, cleaning and pest control activities to be carried out.

The storage area shall be designed to allow maintenance and cleaning, prevention of contamination and to minimize product deterioration.

Cleaning materials, chemicals and other substances hazardous to food products shall be segregated to prevent food contamination.

## 6 Utilities – air, water, energy

### 6.1 General

The provision and distribution routes for utilities to and around food processing and storage areas shall be designed and monitored to avoid potential contamination of food products.

### 6.2 Water supply

Water supplies over which the retailer has control, e.g. private well, shall meet specified water quality and microbiological requirements.

Where water supplies are chlorinated, checks shall ensure that the residual chlorine level at the point of use remains within limits given in relevant specifications.

The supply of potable water shall be sufficient to meet the needs of the food process(es). Facilities for storage, distribution and, where needed, temperature control of the water shall be designed to meet specified water quality requirements.

**NOTE 1** *Potable water should conform to the World Health Organization's Guidelines for drinking-water quality [2] or country of origin legislation where applicable.*

Water used as a product ingredient, including ice or steam (and culinary steam), or water which has contact with products or product contact surfaces, shall meet specified water quality and microbiological requirements relevant to the product.

Water for cleaning or applications where there is a risk of indirect product contact (e.g. jacketed vessels, heat exchangers) shall meet specified quality and microbiological requirements relevant to the application.

Non-potable water shall have a separate supply system that is labelled, is not connected to the potable water system and is prevented from reflux into the potable system.

**NOTE 2** *It is recommended that water that can come into contact with the food product should flow through pipes that can be disinfected.*

### 6.3 Air quality and ventilation

The retailer shall establish requirements for filtration, temperature and humidity of air. Where deemed critical by the organization, a control system shall be put in place and monitored. Ventilation systems shall be accessible for cleaning, filter changing and maintenance.

Ventilation (natural or mechanical) shall be provided to remove excess or unwanted steam, dust and odours, and to facilitate drying after wet cleaning.

Exterior air intake ports shall be maintained for physical integrity.

### 6.4 Compressed air and other gases

Compressed air, carbon dioxide, nitrogen and other gas systems used in retail food processing and/or filling shall be constructed and maintained so as to prevent contamination.

Where used, gases intended for direct or incidental product contact (including those used for transporting, blowing or drying materials, products or equipment) shall be from a source approved for food contact use and filtered to remove contaminants.

Where oil is used for compressors and there is potential for the air to come into contact with the product, the oil used shall be food grade.

**NOTE 1** *Use of oil free compressors is recommended.*

Requirements for filtration, humidity (% RH) and microbiology shall be specified if applicable.

**NOTE 2** *Filtration of the air should be as close to the point of use as is practicable.*

### 6.5 Lighting

Light fixtures shall be protected to ensure that materials, product or equipment are not contaminated in the case of breakages.

The lighting provided (natural or artificial) shall allow personnel to operate in a hygienic manner.

**NOTE** *The intensity of the lighting should be appropriate to the nature of the operation in open food and processing areas.*

## 7 Waste disposal

### 7.1 General

Systems shall be in place to ensure that waste materials are identified, collected, removed and disposed of in a manner which prevents contamination of food products, food production areas or food packaging materials.

### 7.2 Containers for waste and inedible or hazardous substances

Containers for waste and inedible or hazardous substances shall be:

- a) clearly identified for their intended purpose;
- b) located in a designated area;
- c) constructed of impervious material which can be readily cleaned and sanitized;
- d) closed when not in immediate use.

### 7.3 Waste management and removal

Provisions shall be made for the segregation, storage and removal of waste.

Accumulation of waste shall not be allowed in food handling or inside storage areas unless appropriate temperature-controlled measures are in place. Non temperature-controlled waste shall be removed from food processing areas, as a minimum, on a daily basis.

Waste materials shall be removed to ensure that they cannot be reused. Removal and destruction shall be carried out by retailer approved disposal contractors. The organization shall retain records of removal.

### 7.4 Drains and drainage

Drains shall be designed, constructed, located and maintained so that the risk of contamination of materials or products is avoided. Drains shall have capacity sufficient to remove expected flow loads.

## 8 Equipment suitability and maintenance

### 8.1 General

Food and non-food contact equipment shall be designed and constructed to facilitate cleaning, sanitizing and/or disinfection and maintenance.

Food contact surfaces shall be constructed from materials designed for food use. They shall be impermeable and rust or corrosion free.

Food contact surfaces shall not affect, or be affected by, the intended product or cleaning system and shall be constructed of durable materials with the exception of single-use articles.

### 8.2 Hygienic design

Food processing equipment shall be able to meet established principles of hygienic design, including:

- a) smooth, accessible, cleanable surfaces which are self-draining in wet-processing areas;
- b) use of materials compatible with intended products and cleaning or flushing agents.

Piping and ductwork shall be cleanable, drainable, and with no dead ends. They shall be suitable and appropriate for the intended usage.

### 8.3 Temperature control and monitoring equipment

Equipment used for heating and cooling processes shall be able to meet the temperature controls and holding conditions given in relevant product specifications.

The retailer shall monitor and control the temperature of heating and cooling equipment.

### 8.4 Preventive and corrective maintenance

A preventive maintenance programme shall be in place.

The preventive maintenance programme shall include all devices used to monitor and/or control food safety hazards.

*NOTE Examples of such devices include thermometers, screens and filters (including air filters).*

Equipment requiring calibration shall be calibrated in accordance with the manufacturer's instructions and verified at intervals determined by the manufacturer prior to use. Where equipment requiring calibration is hired, copies of calibration certificates shall be obtained and retained as a record.

Maintenance requests which impact food safety shall be given priority.

Temporary fixes shall not put food safety at risk. A request for replacement by a permanent repair shall be included in the maintenance schedule.

Lubricants and heat transfer fluids shall be food grade where there is a risk of direct or indirect contact with the food product.

The procedure for releasing maintained equipment back to production shall include clean-up, sanitizing (where specified in processing sanitation procedures) and pre-use inspection.

PRP requirements shall apply to maintenance activities in food processing areas. Maintenance personnel shall be trained in the product hazards associated with their activities.



## 9 Management of purchased products, materials and services

### 9.1 General

Purchasing of products, materials and services which impact food safety shall be controlled to ensure that the suppliers used have the capability to meet the specified requirements. The effectiveness of measures taken to protect against food contamination shall be periodically reviewed.

### 9.2 Selection and management of suppliers

A process for selection, approval and monitoring of suppliers shall be implemented by the retailer.

The retailer shall identify all suppliers to production unit level and no products from unapproved suppliers shall be sold.



The level of due diligence regarding food safety shall depend on whether a product is an own brand / private label or branded supplier. The approval process for own brand / private label suppliers shall include:

- a) assessment of the suppliers' ability to meet food safety requirements;
- b) description of how suppliers are assessed justified by hazard assessment;

*NOTE Assessment may be conducted at corporate or store level.*

- c) assessment by competent persons;

*NOTE 1 Examples of a description of how suppliers are assessed include:*

- i) *certificates of analysis, supplier reliability and complaints, appropriate third-party certification as well as required performance standards based on a hazard analysis;*
- ii) *audit of the supplying site prior to accepting materials for production.*

*NOTE 2 Examples of service providers are cleaning/chemical companies, pest control, maintenance personnel, waste disposal companies.*

- d) monitoring of the performance of the supplier to verify continued approval status.

*NOTE Monitoring may include conformance to specifications, meeting CoA requirements and satisfactory audit outcomes.*

### 9.3 Incoming material requirements (raw/ingredients/packaging)

Delivery vehicles shall be checked prior to, and during, unloading to verify that the safety of the material has been maintained during transit (e.g. locks and/or seals are intact, vehicle is free from infestation, temperature records exist).

Materials which do not conform to relevant specifications shall be handled under a documented procedure which ensures that they are prevented from unintended use.

# 10 Contamination

## 10.1 General

Programmes shall be in place to prevent, control and detect contamination. Microbiological, physical and chemical contamination shall be included. Measures to control allergens shall also be included.

## 10.2 Microbiological contamination

Where there is potential for microbiological contamination, measures shall be implemented to prevent or control the hazard.

**NOTE** Examples of hazard control measures are:

- a) structural segregation – physical barriers/walls/ separate buildings or storage rooms;
- b) access controls;
- c) traffic patterns or equipment segregation – people, materials, equipment and tools (including use of dedicated tools); and
- d) temperature controls or air pressure differentials.

## 10.3 Allergen management

Allergens present in the product by design, shall be declared either at the point of selection or on the product label.

Information on allergens that might be present from food processing cross-contact shall be made available either at the point of selection or on the product label.

**NOTE 1** Food processing cross-contact might arise from:

- a) traces of product from previous processing which cannot be adequately cleaned from the equipment due to technical limitations;
- b) when contact might occur, in the normal food process, with products or ingredients that are produced in the same or adjacent processing areas;
- c) food processing equipment not being cleaned during change-over between product lines and their varieties.

**NOTE 2** For general rework requirements see Clause 14.

Food handling employees shall receive training in allergen awareness and associated food processing practices.

## 10.4 Physical contamination

Based on a risk assessment, measures shall be put in place to prevent, control or detect potential food contamination.

**NOTE 1** Examples of such measures include:

- a) adequate covers over equipment or containers for exposed materials or products;
- b) use of screens, sieves or filters.

**NOTE 2** Sources of potential contamination include wooden pallets and tools, rubber bands, knife blades, personal protective clothing and equipment, bandages, etc.

Where glass and/or brittle material are used, periodic inspection requirements and defined procedures in case of breakage shall be put in place.

**NOTE 3** Glass and brittle material (such as hard plastic components in equipment) should be avoided where possible.

Glass breakage records shall be maintained where relevant to food safety.



# 11 Cleaning, sanitizing and disinfection

## 11.1 General

Cleaning and sanitizing programmes shall be established to ensure that the food processing equipment and environment are maintained in a hygienic condition. Programmes shall be monitored for continuing suitability and effectiveness.

## 11.2 Cleaning and sanitizing agents and tools

Facilities and equipment shall be maintained in a condition which facilitates wet or dry cleaning and/or sanitation.

Cleaning and sanitizing agents and chemicals approved for use on food processing equipment and contact surfaces shall be clearly identified, stored separately and used only in accordance with the manufacturer's instructions.

Tools and equipment shall be of hygienic design and maintained in a condition which does not present a potential source of food contamination.

## 11.3 Cleaning and sanitizing programmes

Cleaning and sanitizing programmes shall be established, monitored and validated by the organization to ensure that all parts of the retail premises and equipment are cleaned and/or sanitized to a defined schedule, including the cleaning of cleaning equipment.

Cleaning and/or sanitizing programmes shall specify as a minimum:

- a) areas, items of equipment and utensils to be cleaned and/or sanitized;
- b) dedicated tools to be used for cleaning and/or sanitizing;
- c) removal or disassembly requirements;

- d) responsibility for the tasks specified;
- e) cleaning/sanitizing method and frequency;
 

*NOTE Drains should be cleaned in a manner that minimizes food and equipment contamination through splashing or the generation of fine mist particles.*
- f) monitoring and verification procedures;
 

*NOTE Verification may include visual inspection and swab testing.*
- g) post-clean inspections;
- h) pre start-up inspections;
- i) chemicals not suitable for use on food processing equipment or food contact surfaces shall be stored externally from the food processing area.

Where cleaning or sanitizing is not sufficient to maintain hygienic conditions, disinfection shall take place.

*NOTE Situations where disinfection may be required include bodily fluid clean-up, viruses, toilet cleaning, etc.*

## 11.4 Cleaning in place (CIP) systems

CIP systems, where applicable, shall be operated and maintained to prevent food contamination.

## 12 Pest control

### 12.1 General

Hygiene, cleaning, incoming materials inspection and monitoring procedures shall be implemented to avoid creating an environment conducive to pest activity.

### 12.2 Pest control programmes

The retailer shall have a designated person to manage pest control activities and/or deal with appointed expert contractors.

**NOTE** *The designated person may be at corporate or store level.*

Pest management programmes shall be documented and shall identify target pests, and address plans, methods, schedules, control procedures and, where necessary, training requirements.

Programmes shall include a list of pest control chemicals which are approved for use in specified areas of the establishment.

### 12.3 Preventing access

Buildings shall be maintained in good repair. Holes, drains and other potential pest access points shall be appropriately screened, sealed or covered.

External doors, windows or ventilation openings shall be designed, maintained and used to minimize the potential for entry of pests.

### 12.4 Harborage and infestations

Storage practices shall be designed to minimize the availability of food and water to pests.

Material found to be infested shall be handled in such a way as to prevent contamination of other materials, products or the food establishment.

Potential pest harborage shall be removed.

Where outside space is used for storage, stored items shall be protected from weather or pest damage (e.g. bird droppings).

### 12.5 Monitoring and detection

Pest monitoring programmes shall include the placing of detectors and traps in key locations to identify pest activity. A map of detectors and traps shall be maintained. Detectors and traps shall be designed and located so as to prevent potential contamination of materials, products or facilities.

Detectors and traps shall be of robust, tamper-resistant construction. They shall be appropriate for the target pest.

The detectors and traps shall be inspected at a frequency intended to identify and control new pest activity. The results of inspections shall be analysed to identify trends.

### 12.6 Eradication

Eradication measures shall be put in place immediately after evidence of infestation is reported.

Pesticide use and application shall be restricted to trained operatives and shall be controlled to avoid product safety hazards.

Records of pesticide use shall be maintained to show the type, quantity and concentrations used; where, when and how applied, and the target pest.



## 13 Personnel hygiene and employee facilities

### 13.1 General

Requirements for personal hygiene and behaviours proportional to the hazard posed to the food processing area or product shall be established and documented. All personnel, visitors and contractors entering food processing areas shall be required to comply with the documented requirements.

### 13.2 Personnel hygiene facilities and toilets

Personnel hygiene facilities shall be available to ensure that the degree of personal hygiene required by the retailer can be maintained. The facilities shall be located close to the points where hygiene requirements apply and shall be clearly designated.

Retail premises shall have:

- a) adequate numbers, locations and means of hygienically washing and drying hands (including wash basins, supply of hot and cold or temperature controlled water, and soap and/or sanitizer) and an adequate number of toilets of appropriate hygienic design, each with hand washing, drying and, where required, sanitizing facilities;

**NOTE 1** *Sinks designated for hand washing, food use, and equipment cleaning should be separate.*

**NOTE 2** *Taps at hand wash stations should not be hand operated.*

- b) personnel toilets and changing facilities that do not open directly onto food processing areas.

### 13.3 Personnel canteens and designated eating areas

Personnel canteens and designated areas for food storage and consumption shall be situated so that the potential for cross-contamination of food processing areas is minimized.

Personnel canteens shall be managed to ensure hygienic storage of ingredients and preparation, storage and serving of prepared foods.

Employees' own food shall be stored and consumed in designated areas only.

### 13.4 Work wear and protective clothing

Personnel who work in, or enter into, areas where exposed products and/or materials are handled shall wear work clothing that is fit for purpose, clean and in good condition (e.g. free from rips, tears or fraying material).

Clothing mandated for food protection or hygiene purposes shall not be used for any other purpose.

**NOTE 1** *It is recommended that work wear in food processing areas should be buttonless and not have outside pockets above waist level.*

Work wear shall be laundered to standards and at intervals suitable for the intended use of the garments.

Work wear shall provide adequate coverage to ensure that hair, perspiration, etc. cannot contaminate the product.

Hair restraints such as hats, hair coverings or nets, beard restraints, and clothing that covers body hair, that are designed and worn to keep hair from contacting exposed food; clean equipment, utensils, and linens shall be worn.

Where gloves are used for product contact, they shall be clean and in good condition.

**NOTE 2** *Use of latex gloves should be avoided where possible.*

Footwear for use in processing areas shall be fully enclosed and made from durable materials.

Personal protective equipment (PPE), where required, shall be used to prevent product contamination and maintained in hygienic condition.

### 13.5 Health status

Personnel whose work activities will bring them into exposed food contact shall report illness or other medical conditions which can affect food safety to a designated person, and gain authorization before undertaking the activity.

### 13.6 Illness and injuries

Personnel shall be required to report the following conditions to a designated person for possible exclusion from food-handling areas: jaundice, diarrhoea, vomiting, fever, sore throat with fever, visibly infected skin lesions (boils, cuts or sores) and discharges from the ear, eye or nose.

People known or suspected to be infected with, or carrying, a disease or illness transmissible through food shall be prevented from handling unwrapped food, food preparation equipment or contact with packaging materials.

In food handling areas, personnel with wounds or burns shall be required to cover them with specified dressings. Any lost dressing shall be reported to supervision immediately.

**NOTE** Dressings should be brightly coloured and a different colour from the product being processed, where appropriate.

### 13.7 Personal cleanliness

Personnel in food processing areas shall wash hands to maintain cleanliness and minimize risk of food contamination.

**NOTE** Examples of when personnel should wash their hands include:

- after touching bare human body parts other than clean hands and clean, exposed portions of arms;
- after using the toilet room;
- after coughing, sneezing, using a handkerchief or disposable tissue, using tobacco, eating, or drinking;
- after handling soiled equipment or utensils;
- during food preparation, as often as necessary to remove soil and contamination and to prevent cross contamination when changing tasks;
- when switching between working with raw food and working with ready-to-eat food;
- before donning gloves for working with food; and
- after engaging in other activities that contaminate the hands.

Personnel shall be required to refrain from sneezing or coughing over materials or products. Spitting (expectorating) shall be prohibited.

Fingernails shall be kept clean and trimmed.

### 13.8 Personal behaviour

A documented policy shall describe the behaviours required of personnel. The policy shall at a minimum cover:

- a) permissibility of smoking, eating, chewing in designated areas only;
- b) control measures to minimize hazards presented by permitted jewellery;
 

**NOTE** Permitted jewellery includes specific types of jewellery which may be worn by the personnel in processing and storage areas, taking into account religious, ethnic, medical and cultural imperatives.
- c) permissibility of personal items, such as smoking materials and medicines, in designated areas only;
- d) prohibition of false nails and false eyelashes;
- e) management of nail polish with personnel required to use gloves while in food processing areas;
- f) prohibition of carrying of writing implements in a manner that creates a food risk;
 

**NOTE** Personnel should not carry writing implements loose in breast pockets or behind ears.
- g) maintenance of personal lockers so that they are kept free from rubbish and soiled clothing;
- h) prohibition of storage of product contact tools and equipment in personal lockers.



## 14 Rework

### 14.1 General

Rework shall be stored, handled and used in such a way that product safety, quality and traceability are maintained.

### 14.2 Storage, identification and traceability

Stored rework shall be protected from exposure to microbiological, chemical or extraneous matter contamination.

Rework shall be clearly identified and/or labelled to allow traceability.

### 14.3 Rework usage

Where rework is incorporated into a product as an "in-process" step, the acceptable quantity, type and conditions of rework use shall be specified.

Where rework activities involve removing a product from filled or wrapped packages, controls shall be put in place to avoid contamination of the product with extraneous matter.

## 15 Product returns and recall procedures

### 15.1 General

Systems shall be in place to ensure that products failing to meet required food safety standards can be identified, located and removed from all necessary points of the supply chain under direct or partial control of the retailer.

### 15.2 Product recall and general product return procedures

When recalled product is returned for credit or exchange, procedures shall be in place to segregate the returned product so that it is not placed back onto the sales shelves for re-sale.

When product is returned for reasons other than a product recall, procedures shall be in place to properly inspect the product to ensure the product has not been exposed to tampering. With regard to perishable fresh products that are sensitive to time and temperature requirements, procedures shall be in place to ensure that the returned product is not placed back onto the shelves for re-sale.



## 16 Warehousing and storage

### 16.1 General

Materials and products shall be stored in clean, dry, well-ventilated spaces protected from dust, condensation, fumes, odours or other sources of contamination.

### 16.2 Wareroom/warehousing

Effective control of warehousing temperature, humidity and other environmental conditions shall be provided where required by product or storage specifications.

**NOTE** *It is recommended that where products are stacked, consideration is given to measures necessary to protect the lower layers.*

Waste materials and chemicals (cleaning products, lubricants, and pesticides) shall be segregated and stored separately.

A separate area or other means of segregating materials identified as non-conforming shall be provided.

Specified stock rotation systems (FIFO/FEFO) shall be observed.

## 17 Product information/ consumer awareness

### 17.1 Product information

Information shall be presented to consumers in such a way as to enable them to understand its importance and make informed choices.

**NOTE** *Information may be provided by labelling or other means, such as company websites and advertisements, and may include storage, preparation and serving instructions applicable to the product.*

### 17.2 Labelling of foods

Procedures shall be in place to ensure the application of correct labels to food products prepared and/or packaged in-store.



## 18 Food defence, biovigilance and bioterrorism **Bibliography**

Each retailer shall assess the hazard to products posed by potential acts of sabotage, vandalism or terrorism and shall put in place proportional protective measures.

**NOTE 1** For further information and guidance on approaches to the protection of food businesses from all forms of malicious attack see PAS 96.

**NOTE 2** Where feasible, access should be physically restricted by use of locks, electronic card key or alternative systems.



For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

### Standards publications

PAS 96, *Defending food and drink – Guidance for the deterrence, detection and defeat of ideologically motivated and other forms of malicious attack on food and drink and their supply arrangements*

ISO/TS 22002-2, *Prerequisite programmes on food safety – Part 2: Catering*

### Other publications

[1] Codex Alimentarius. *Recommended international code of practice – General principles of food hygiene*

[2] World Health Organization (WHO). *Guidelines for drinking-water quality*. Geneva: WHO, 2008

### Further reading

BIP 2078, *Managing food safety the 22000 way*

BIP 2128, *ISO 22000 Food safety – Guidance and workbook for food manufacturers*

BS EN ISO 22005, *Traceability in the feed and food chain – General principles and basic requirements for system design and implementation*

ISO/TS 22003, *Food safety management systems – Requirements for bodies providing audit and certification of food safety management systems*

ISO/TS 22004, *Food safety management systems – Guidance on the application of ISO 22000:2005*

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