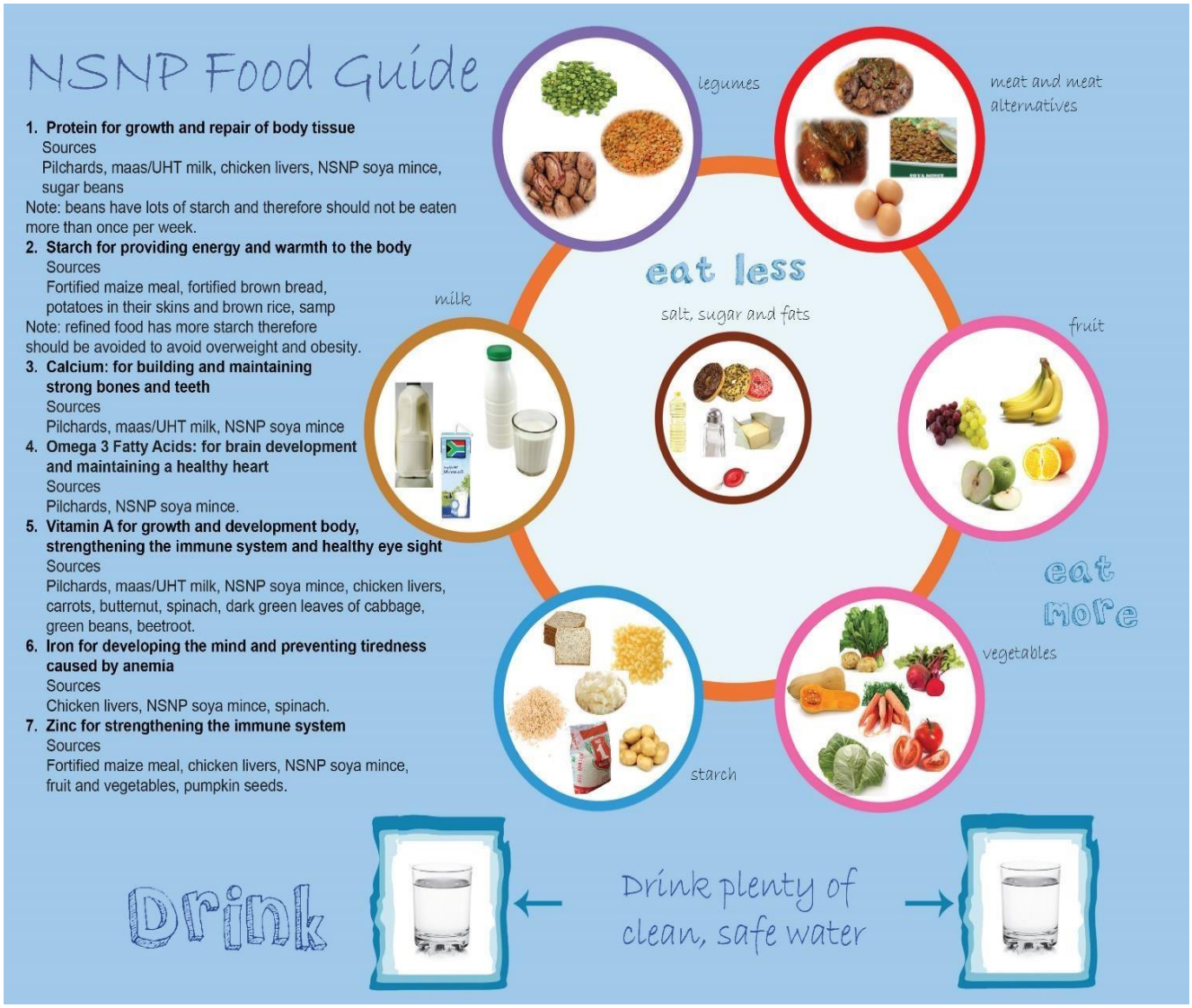
basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

National School Nutrition Programme Food Specifications



Acknowledgements

The Department of Basic Education would like to acknowledge the support of the following Departments: Agriculture Land Reform and Rural Development, Health and the Trade, Industry and Competitions' (National Regulator for Compulsory Specifications) for their input in reviewing the National School National Programme's Food Specification.

The NSNP Food Specifications is intended for all the stakeholders such as manufacturers, service providers, Provincial Education Departments, Districts, Circuits, schools and the public.

The Food Guide has been adapted from the Department of Health's guidelines "Specifications for Perishable and Non-Perishable Foods" (Volume 4, 2011) to ensure alignment with all relevant Regulations which are highlighted hereunder. Therefore, these guidelines are subject to change in line with any DoH's amended regulations moving onwards.

Contents

Abbreviations

APS - Agricultural Products Standard

CFU - Colony Form Unit

CoA - Certificate of Acceptability

CoC - Certificate of Compliance

DALRRD - Department of Agriculture Land Reform and Rural Development

DBE - Department of Basic Education

DoH - Department of Health

DSBD - Department of Small Business Development

FCDA - Food Cosmetics and Disinfectants Act

FSQA - Food Safety and Quality Assurance

HACCP - Hazard Analysis Critical Control Point

HPA - Highly Pathogenic Avian Influenza

HPP - High Pressure Processing

IU - International unit

Kg - Kilograms

Kj - Kilojoule

Mcg - Microgram

Mg - Milligram

MSG - Monosodium Glutamate

MUFA - Monounsaturated Fatty Acids

NDP - National Development Plan

NRCS - National Regulator for Compulsory Specifications

NSNP - National School Nutrition Programme

PUFA - Polyunsaturated Fatty Acids

Retinol equivalents (RE) = 1 mcg retinol = 3.33 IU (International units)

RH - Relative Humidity

SANAS - South African National Accreditation System

Introduction

The Department of Basic Education (DBE) has a mandate to manage and implement the National School Nutrition Programme (NSNP), a key government intervention programme that is aligned with the South African National Development Plan aimed at addressing poverty by 2030.
This also comes under the overarching Department's goal and sectoral Action Plan of improved quality teaching and learning. Therefore, the Department is working towards making learners better equipped for the future.

The National School Nutrition Programme (NSNP) aims to enhance the learning capacity and give access to education for learners from poor households. The Programme has shown some spinoffs in increased and regular school attendance as well as high levels of concentration in learners' studies regardless of the food insecurity challenges they may face on a daily basis.

The aim of the NSNP is to serve quality nutritious and safe meals in partnership with the

Departments of Health (DoH), Agriculture Land Reform and Rural Development (DALRRD), Trade and Industry (DTI), and National Regulator for Compulsory Specifications (NRCS). The rationale behind the Food Specifications is to:

- Maintain food standards to ensure food safety and quality
- Improve the quality of nutrition in meals served to learners
- Minimise hygiene-related risks to learners
- Make information on quality control measures available to role players e.g. manufacturers and service providers on the requirements of the NSNP standards

1. Legal Framework

Legislation Governing Food Specifications

All the food items supplied to the NSNP should comply with all the requirements as stipulated in the following Acts, Notices, South African National Accreditation System (SANAS) and regulations.

1.1 Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) as amended

Directorate: Food Safety and Quality Assurance (FSQA)

FSQA is to regulate the quality and food safety of certain agricultural products in terms of Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) and to control the production, sale, import and export of certain alcoholic products in terms of the Liquor Products Act, 1989 (Act 60 of 1989) and matters connected therewith.

Enforcement of the Agricultural Product Standards Act, 1990 (Act No. 119 OF 1990).

The Minister of Agriculture, Land Reform and Rural Development (DALRRD) appointed assignees in terms of section 2(3) (a) to regulate the quality of certain agricultural products. The appointed assignees undertake inspections at the point of sale (e.g., Fresh Produce Markets, Distribution Centres and etc.), manufacturer (e.g., Pack house), packaging or export to ensure that the set standards and requirements are maintained and that the benefits of classification, grading and marking reach the consumer.

- Dairy products: R.1510 of 22 November 2019
- Eggs: R.345 of 20 March 2020
- Fats Spread: R.194 of 9 March 2012

1.2 Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) as amended

- R. 504 of 07 April 2003, as amended (Regulations relating to fortification of certain foodstuff)
- R. 146 of 01 March 2010 (Regulations relating to labelling and advertising of foodstuff)
- R. 127 of 17 February 2011 (Regulations relating to trans-fats in foodstuff)
- R. 214 of 20 March 2013 (Regulations relating to reduction of sodium in certain foodstuff)
- R. 638 of 26 June 2018, as amended (Regulations governing general hygiene requirements for food premises and the transport of food)

1.3 Trade Metrology Act, 1973 (Act No. 77 of 1973) as amended

1.4 Marketing Act, 1968 (Act No. 59 of 1968) as amended

1.5 National Regulator for Compulsory Specifications Act, 2008 (Act No. 5 of 2008) as amended

1.6 Competition Act, 1998 (Act No. 89 of 1998) as amended

2. General Requirements for Approval of Food Items

2.1 Certificate of Acceptability

- No person should handle food or permit food to be handled on food premises in respect of which a valid Certificate of Acceptability (CoA) has not been issued or is not in force (Regulation 918 of the Health Act 63 of 1977 in conjunction with the National Health Act 61 of 2003, by the local authority (District or Metropolitan Municipality))
- Food Safety Management System Certificate, CoA from municipality and Halaal Certificate
- DALRRD Import Permit & Abattoir Registration
- SANAS Accredited nutritional & microbial analysis as per NSNP Food Specifications
- Shelf-life report from SANAS Accredited Laboratory and Packaging as per NSNP Specification
- NRCS approval where applicable
- Labelling according to regulations
- Product sample for sensory evaluation

2.2 Premises and plant

- Factory should be inspected to verify the compliance
- The premises should comply with all laid down state and local authority regulations with regards to hygiene and health standards
- The premises should be maintained in an acceptable hygiene condition to the satisfaction of the purchaser

2.3 Quality Management System

- The processing factory should maintain a quality management system which will assure that all products supplied to this specification are satisfactory in all respect. Quality management system is maintained through Hazard Analysis and Critical Control Point (HACCP).
- HACCP is a system that identifies, evaluates and controls hazards which are significant for food safety, it builds on the foundations of well-established quality management systems such as Good Manufacturing Practice (GMP), Good Hygienic Practice (GHP), Good Agricultural Practice (GAP), and Good Storage Practice (GSP).
- The quality management system should be approved by the purchaser and should ideally comply with the requirements set out in SABS 0157, code of practice for quality management systems.

2.4 Responsibility for examination

- The manufacturer should be responsible for carrying out all such examination, measurements and tests during or after processing to ensure that all items are fully compliant with the requirements of the specifications
- The end user has the right to subject all deliveries to a visual examination, verification of weight/quantity and inspect tests which have been carried out

2.5 Packaging

- Food packaging and product labelling should comply with the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) as amended
- All containers, packaging and cartons should be clearly labelled, all products should be packed in acceptable containers
- Items delivered should adhere to the relevant regulations with regards to labelling and packaging (R. 146 of 01 March 2010)
- Items purchased from stated suppliers should not be re-packaged or re-worked in any way Bulk stock should be labelled accordingly

2.7 Labelling

The following information should be legibly, and indelibly printed on each container/package

- The “NOT FOR RE-SALE” should appear on each container/package
- The full name, country of origin and street address of the manufacturer should appear on the package
- The name or trade name of the product
- The net mass of the product should be printed on the package
- The drained mass of processed meat e.g (pilchards or livers) should appear on the package
- Production date, sell-date, best-before-date and use-by date should be clearly identified in NSNP products
- Due to safety consideration, foodstuff used in the NSNP must be within the **sell-by**, **usedby** and **best-before** dates and not used after these dates
- The batch identification
- The nutritional information of the product should be printed on the package
- The list of all the ingredients used should be labelled in a descending order starting with the highest
- Allergens should be specified
- A clean label is preferred, however if additives are used, they should not be more than five (5)
- Trans-fats and hydrogenated fat should not be used (no palm oil)
- The final product should not contain any **Tartrazine and MSG**

- Specify the type of protein used for Hydrolysed Vegetable Protein
- Statements for misleading customers are prohibited
- Full instructions for storage, use, and the method of preparation
- Serving suggestions

2.6 Containers

- The function of a container to the products is to maintain the quality, safety and stability of contents. It should withstand the mechanical hazards and remain strong during handling and transportation
- It should also protect products against leakage and contamination during storage
- Containers should comply with regulations under the Foodstuffs, Cosmetics and Disinfectant Act of 1972 relevant Codex Alimentarius Standards.

2.8 Delivery

- The delivery schedule as stated by the Department of Basic Education should be strictly adhered to by the suppliers
- All perishable and non-perishable food supplied to the schools should be according to the quality requirements as indicated in this specification
- The supplier should only deliver quantities as indicated in the delivery schedules with the order and suppliers should under no circumstances deviate from the orders issued
- The school is under no obligation to receive any stock, which is in excess of the ordered quantities of each item
- The food items should be delivered at a frame time arranged by the purchaser

2.9 Testing of Samples

- The procedure concerning the taking and testing of samples should comply with the Foodstuffs, Cosmetics and Disinfectant Act of 1972 and should be tested regularly
- The supplier should produce certificates from a certified laboratory and the certificates should be cross-referenced to batch numbers appearing on the product container
- The manufacturer will take a sample and submit it to a certified laboratory at their expense
- The results should be available for any government official to access
- Retention samples should be kept for the duration of the product expiry
- The quality of the product that was approved by the department should be maintained throughout

2.10 Micro-biological requirements

- Products should be tested by SANAS Accredited Laboratory for nutritional and microbiological analysis as per NSNP Food Specifications

- All food products should be free from microorganisms that can grow, reproduce and produce toxins which cause spoilage and food poisoning to products
- The products should be free from all pathogenic microorganism

  Microorganism should be destroyed with either extremely high temperature (retort) or extremely low
- temperature (HPP)

2.11 Sensory properties

- Sensory analysis examines the properties (texture, flavour, taste, appearance and smell), it can be used for the purpose of accepting or rejecting food products, for quality control and determining shelf life of the products
- When a product is opened, it should have the same colour, taste and smell as the original product when packaged

2.12 Shelf-life

- Non-perishables: Upon delivery, dry products should have at least nine (9) months shelf life
- Liquid products should have six (6) months shelf life
- Perishables: Upon delivery, fruit and vegetables should have at least seven (7) days shelf life
- **The end user has a right to subject all deliveries to a visual examination, verification of weight/quantity and analyse tests which have been carried out**

2.13 Recommendations on selecting food items

- **Locally produced food are recommended** to stimulate the South African economy in alignment to the National Development Plan (NDP) 2030 that is regulated by the Department of Small Business Development (DSBD)
- **Fresh food** of high quality are recommended as it provides optimal nutrition
- Only products that are regulated by the relevant Departments or agents e.g. DALRRD, DoH, and NRCS
- **UHT** Milk and Amasi (made from **pasteurised milk**)
- Dehydrated vegetables and fruits do not provide the same nutritive value as the fresh ones hence the South African Food Based Dietary Guideline emphasises the eating of plenty of fresh fruits and vegetables every day

2.14 Special diets

The NSNP does not specialise in specific diets linked to health conditions like Diabetes Mellitus, HIV/AIDS, and Tuberculosis. Currently a number of specialised nutrition supplements are available for diet related conditions/diseases such as Diabetes, HIV/AIDS and Tuberculosis and others, but this is not the competency of the NSNP as per its mandate, no specific nutrition supplements are recommended. The guideline should be interpreted to ensure unreserved access to basic quality nutrition as provided by the Department of Basic Education and Government in general as well as the donors, for the benefit of learners in schools.

3. Starches (Grains and grain products)

3.1 Grains and grain products

Table 3.1.1 (a) General requirements for grains and grain products

Requirements for approval	Compliance criteria
1. Class designation	(i) Class 1 and 2 or Grade 1 and 2
2. Comply with standards for classes and grades	(i) Be fit for human consumption (ii) Be of a particular type, size, and colour group (iii) Have moisture content of not more than 14%
3. Container requirements	(i) Be clean, dry, suitable, and undamaged (iii) Be closed or sealed properly (iii) Be strong that they will not tear or break during normal storage, handling and transporting
4. Marking requirements	(i) Name and physical address of packer or importer (ii) Class indication e.g. Grade 1, 2 and 3 (iii) Product type e.g. maize meal (v) Lot identification (vi) Net mass of the product

Table 3.1.1 (b): General Quality Standards for grain and grain products

Quality factor	Compliance criteria
1. Mouldy, , sour and smell	Be free from mouldy, sour and smell
2. Insects	Be free from insects
3. Moisture	Have moisture content of not more than 14%
4. Poisonous or noxious seeds	Be free from poisonous or noxious seeds
5. Insect damage	Be free from insect damage or damage caused by other organisms
6. Animal fifth, glass, metal	Be free from animal filth, glass, and metal
7. Wet and caked patches	Be free from wet and caked patches Consists of matured
8. Mature dry seeds	Dried seeds and pulses
9. Damage and unsound kernel	Be free from damaged and unsound kernels

3.2 Super Maize Meal

3.2.1 Definition

Maize products are commodities that derived from the processing of maize and which include enriched, fortified and precooked maize meal, which is relatively coarse flour made from maize or mealies.

3.2.2 Nutritional requirements for fortified maize meal

- Maize meal should be fortified according to the regulations relating to the fortification, in the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act, No. 54 of 1972)
- It should have the logo accompanied with an official approved claim “Food fortification for better health”.
- 100g of the dry product should contain approximately the following minimum amounts of specified nutrients:

Nutrients	**Per 100g (unprepared)**
Energy	1300 - 1500kj
Carbohydrate	70 - 75g
Protein	6 - 8g
Fat	1- 2g
Dietary fibre	3 - 5g
Moisture	<14%
Micronutrient	**Per 100g**

Vitamin A (Retinol)	187mcg
Thiamin	0,3mg
Riboflavin	0,2mg
Niacin	3mg
Pyridoxine	0,4mg
Folic acid	0,2mg
Iron	3,8mg
Zinc	0,2 mg

3.2.3 Microbiological requirements

The product should:

- contain less than 10 coli form organisms/gram
- free from pathogenic microorganism (*Salmonella, Shigella, Staphylococcus aureus or E. coli organism*) in a 30g sample
- not have any viable spores of *mesophilic Clostridium* organisms in a 30g sample

3.2.4 Organoleptic and Sensory properties

- The maize product should be suitable for human consumption and should be free from foreign matter and insects, objectionable flavour and odour
- Be free from mouldy, sour, rancid smell or taste
- Should not contain egg protein, colourants, artificial sweeteners or preservatives
- The product should be free from heavy metals
- The product should have a white creamy appearance and a pearly texture when cooked
- The product should have a typical maize taste and flavour when cooked and should not have burnt or foreign tastes

3.2.5 Packaging and Labelling

- The maize product should be packed in strong propylene bags and woven polypropylene bags
- Propylene bags should be clean, sturdy and strongly sealed. The product should be available in 10kg, 25kg and 50kg packages
- The packaging should be marked and labelled in accordance with the Foodstuffs Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)

3.2.6 Storage and Shelf life

- The product should be stored in clean, cool and dry conditions at room temperature (2025°C) away from direct sunlight
- The product should have a shelf life of at least nine (9) months

3.3 Rice (Parboiled)

3.3.1 Definition

Parboiled rice is rice that have been partially boiled in the husk, it involves three basic steps, which are soaking, steaming and drying, the process turns the rice light yellow rather than white.

3.3.2 Nutritional requirements

At the time of packaging, the nutritional value should not be significantly more or less than the following, as shown in the table below:

Long Grain Parboiled Rice

Nutrients	**Per 100 g**
Energy	1400 - 1500kj
Protein	8 -10g
Carbohydrates	65 - 70g
Fat	1 - 2g
Saturated	0.70g
Polyunsaturated Fat	0.14g
Monounsaturated Fat	0.29g
Fibre	0.8g
Sodium	< 3mg

3.3.3 Quality standards

General requirements

- Comply with the maximum residue levels prescribed for Agricultural Remedies and Heavy Metals in terms of Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- Should be free from insects and all storage pests
- Should be free from animal filth, glass, metal, or any other form of foreign object contamination

3.3.4 Microbiological requirements

- The product should not contain any substance originating from microorganisms in amounts which may represent a hazard to human health such as *Bacillus cereus, Aspergillus and penicillium*

3.3.5 Sensory properties

Organoleptic and sensory properties

- Parboiled long grain rice, containing more than 4% broken kernels
- Have moisture content not exceeding 14 percent
- Rice may be polished with or without talc

Appearance:

- Should be clean, uniform in size and colour
- No glucose, colouring or any extraneous matter may be permitted in this product
- After cooking, rice should be of its normal colour and characteristic of not sticking to each other

Texture:

- Rice is hard, almost brittle in the dry state. Once it is cooked it attains a fluffy, light and soft texture
- The grains should be separate when served

Flavour:

- The rice, in the dry and cooked state, should be free from unacceptable tastes and odours

3.3.6 Packaging and labelling

- The package should be labelled as per the Regulation R146 in the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- The 10 and 25 kg quantities of rice should be packed into low-density plastic bags
- The bags should be sealed, to protect the contents against microbial, insect and rodent infestation

3.3.7 Storage

- The product should be stored in a cool, dry, well ventilated place, and handled in an appropriate manner

3.3.8 Shelf life

- The product should have a shelf life of at least nine (9) months

3.4 Bread Wheat Flour (brown)

3.4.1 Definition

Wheat flour is the product prepared from grain of common wheat, *Triticum aestivum* L, or club wheat, *Triticum compactum* host, or mixtures thereof, by grinding or milling processes in which the bran and germ are partly removed and the remainder is comminuted to a suitable degree of fineness.

3.4.2 Requirements

Wheat flour should be **fortified** according to the regulations relating to the fortification of foodstuffs R 504 under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972). The fortified wheat flour should have the logo accompanied with an official approved claim "Food fortification for better health".

3.4.3 Nutritional requirement

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**Per 100 g**
Energy	1400 - 1500kj
Protein	10 - 11g
Carbohydrate	65 - 70g
Total fat	1 - 2g
Dietary fibre	3 - 5g
Moisture	<14%
Sodium	<2 - 3mg

Micronutrient	**Per 100g**
Vitamin A (Retinol)	142mcg
Thiamine	0,4mg
Riboflavin	0,2mg
Niacin	5,5mg
Pyridoxine	0,3mg
Folic	0,1mg
Iron	4,8mg
Zinc	2,7mg

3.4.4 Essential composition and quality factors

- Wheat flour and any added ingredients should be safe and suitable for human consumption
- Should be free from abnormal flavours, odours and insects
- Should be free from filth in any amount which may represent a hazard to human health
- Have moisture content not exceeding 14 percent
- The following ingredients may be added to wheat flour in amounts necessary for technological purposes such as:

- malted products with enzymatic activity made from wheat, rye or barley

- vital wheat gluten, soybean flour and legume flour

Food additives

Enzymes	**Maximum level in finished product**
Fungal amylase from *Aspergillus niger*	GMP (Good Manufacturing Practices)
Fungal amylase from *Aspergillus oryzae*	GMP (Good Manufacturing Practices)
Proteolytic enzyme from *Bacillus subtilis*	GMP (Good Manufacturing Practices)
Proteolytic enzyme from *Aspergillus oryzae*	GMP (Good Manufacturing Practices)
Flour treatment agents	**Maximum level in finished product per kg**
L-ascorbic acid and its sodium and potassium salts	300mg
L-cysteine hydrochloride	90mg
Sulphur dioxide (in flours for biscuit and pastry manufacture only)	90mg
Mono-calcium phosphate	90mg
Lecithin	90mg
Ascorbic Acid	200mg/kg
Azadicarbonamide	45mg/kg
Calcium Acetate	300mg/kg
Sodium hydrogen diacetate	2000mg/kg
Propionic acid or the calcium and sodium salts there of	3000/kg
Chlorine in high ratio cakes	90mg
Chlorine dioxide for yeast raised bakery products	90mg
Benzoyl peroxide	90mg
Azodicarbonamide for leavened bread	90mg

3.4.5 Microbial requirement

- The product should not contain substances originating from microorganisms in amounts which may represent hazard to health
- The product should be free from aerobic bacterial, E. coli, yeast and moulds

3.4.6 Packaging and labelling

- The packaging should be marked and labelled in accordance with the Regulation R146, of the Foodstuffs, Cosmetics and Disinfectants Act,1972 (Act No. 54 of 1972) as amended

- Wheat flour should be packaged in a container that will safeguard the hygienic, nutritional, technological and organoleptic qualities of the product
- Package should not impart any toxic substance or undesirable odour or flavours to the product

3.4.7 Storage

- The product should be stored in a cool, dry well ventilated place, and handled in the appropriate manner

3.4.8 Shelf life

- The product should have a shelf life of at least nine (9) months

3.5 Samp

3.5.1 Definition

Food consisting of dried corn kernels that have been pounded and chopped until broken, but not as finely ground as mealie meal.

3.5.2 Nutritional content

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**Per 100 g**
Energy	1400 - 1500kg
Protein	6 - 7g
Carbohydrate	70 - 75g
Total fat	1 - 2g
Dietary fibre	8 - 9g

3.5.3 Microbiological requirements

The product should have microbiological specification consistent with that of soundly handled and processed maize.

The product should:

- Contain less than 10 coli form organisms/gram
- Be free from pathogenic microorganism (*Salmonella, Shigella, Staphylococcus* aureus and *E. coli*) organisms in a 30g sample
- Not have any viable spores of *Mesophilic Clostridium* organisms in a 30g sample

3.5.4 Packaging and Labelling

- The packaging should be marked and labelled in accordance with Regulation R146, of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) as amended

- The product should be packaged into polyethylene or woven bags, which protect the content against moisture absorption, flavour loss and insect infestations
- The product should be packaged in clean, sturdy and strongly sewn or sealed package

3.5.5 Storage

- The product should be stored in clean, cool and dry conditions at room temperature

3.5.6 Shelf-life

- The shelf life should be at least nine (9) months

3.6 Instant Breakfast Cereal

3.6.1 Definition

Breakfast cereals are extruded corn, wheat, rice, oats or other grains which may be coated with; sugar, enriched with micronutrients or enhanced with fruit flavours such as banana, vanilla, strawberry and chocolate. It is defined processed grains for human consumption. It requires little or no preparations usually it is mixed/consumed with milk or hot water.

3.6.2 Composition Requirements

The product should contain the following ingredients: **fortified maize meal**, sorghum, sunflower or canola oil, sodium caseinate, sugar, salt and flavourants (depending on the recipe or formulation)

3.6.3 Nutrient Composition

The product should be made from **fortified maize** according to the regulations relating to the fortification regulations in the t Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act, No. 54 of 1972).

Nutrients	**Per 100 g**
Energy	1300 - 1500kj
Protein	5 - 8g
Carbohydrate	60 - 69g
Total sugar	8 - 10g
Total fat	1 - 2g
Dietary fibre	3 - 5g
Sodium	< 400mg

3.6.4 Microbiological requirements

The product should have microbiological specification consistent with that of soundly handled and processed maize.

The product should:

- Contain less than 10 coli form organisms/gram
- Be free from pathogenic microorganisms *Salmonella, Shigella, Staphylococcus* aureus or *E. coli* organisms in a 30g sample
- Be absent of any viable spores of *mesophilic Clostridium* organisms in a 30 g sample

3.6.5. Organoleptic and sensory properties

- Appearance: The product should be in powdered form and may have the colour of designated flavour
- Flavour: The product flavour should be free from objectionable, burnt or foreign taste
- Texture: When reconstituted with hot or cold milk, the product should have a smooth texture with uniform consistency and be free of lumps

3.6.5 Packaging and labelling

- The product should be packaged in strong propylene bags
- Propylene bags should be clean, sturdy and strongly sealed
- The product should be available in 2kg, 5kg, 10kg and 25kg bags
- The package should have the brand name, nutrient content, expiry date, preparation instructions and storage conditions printed outside the package
- The packaging should be marked and labelled in accordance with Regulations R146 Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- **Trans-fats** and **hydrogenated** fat should not be used (**no palm oil**)

3.6.6 Storage

- The product should be stored in clean, cool and dry conditions at room temperature

3.6.7 Shelf life

- The product should have at least shelf life of nine (9) months

3.7 Enriched Instant porridge

3.7.1 Definition

Enriched breakfast porridge contains nutrients that are usually added by the manufacturer to edify the nutritional content of the food item. The manufacturer should add products such as soya

isolate whole soya bean flour and milk powder to the whole maize flour or sorghum to enrich the porridge.

3.7.2 Nutritional Requirements

Nutrients	**Per 100 g**
Energy	1500 - 1600kj
Protein	14 - 17g
Carbohydrate	45 - 50g
Total sugar	08 - 10g
Total fat	15-17g
Dietary fibre	5 - 7g
Sodium	< 400mg
Calcium	250 - 300 mg
Vitamin A	800 - 1000 mcg

3.7.3 Microbiological requirements

The product should:

- contain less than 10 coli form organisms/gram
- be free from pathogenic microorganisms *Salmonella, Shigella, Staphylococcus* aureus or *E. coli* organisms in a 30g sample
- absent of any viable spores of *mesophilic Clostridium* organisms in a 30 g sample

3.7.5 Packaging and labelling

- The product should be packed in strong propylene bags
- Propylene bags should be clean, sturdy and strongly sealed
- The product should be available in 2kg, 5kg, 10kg and 25kg bags
- The package should have the brand name, nutrient content, expiry date, preparation instructions and storage conditions printed outside the package
- The packaging should be marked and labelled in accordance with Regulations R146
- Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- **Trans-fats** and **hydrogenated** fat should not be used (**no palm oil**)

3.7.6 Storage

- The product should be stored in clean, cool and dry conditions at room temperature

3.7.7 Shelf life

- The product should have a shelf life of nine (9) months

3.8 Instant Oats

3.8.1 Definition

Oats are a whole grain food, known scientifically as *Avena sativa*, the most intact and whole form of oats, take a long time to cook. For this reason, most people prefer rolled, crushed, or steel-cut oats. Instant oats are the most highly processed variety.

3.8.2 Nutritional requirements

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**per 100g (uncooked)**
Energy	1500 - 1700kj
Carbohydrate	60 - 70g
Total sugar	8 -10g
Protein	11 - 15g
Total Fat	5 - 6g
Dietary Fibre	10 -12g
Moisture	<14%

3.8.3 Microbiological Requirements

The product should be free from bacterial pathogens that contaminate cereal grains and cereal products such as *Bacillus cereus, Clostridium botulinum, Clostridium perfringens, Escherichia coli, Salmonella, and Staphylococcus aureus.* Product should have microbiological specification consistent with that of soundly handled and processed oats.

3.8.4 Organoleptic and Sensory Requirements

- Appearance: The product should have a creamy appearance when cooked for 5 minutes
- Flavour: The product should have a typical oatmeal porridge taste and flavour when cooked for 5 minutes and should be free from objectionable, burnt or foreign taste
- Texture: The product should have a pearly texture when cooked for 5 minutes

3.8.5 Packaging and Labelling

- The product should be packed in strong translucent propylene bags and boxes
- Package should be clean, sturdy and strongly sealed
- The product should be available in 2kg, 10kg and 25kg packages
- The packaging should be marked and labelled in accordance with the Regulation R146Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)

3.8.6 Storage

- The product should be stored in clean, cool and dry conditions at room temperature

3.8.7 Shelf life

- Shelf life of at least 9 months if the package is unopened or stored in an airtight container

3.9 Bread

3.9.1 Definition

Bread is a staple food prepared from dough of flour and water by baking, brown bread should be made from **fortified flour**.

3.9.2 Nutritional requirements

The product should have the following nutritional requirements, as shown in the following table in compliance with fortification legislation:

Nutrients	**per 100g**
Energy	850 - 950kj
Protein	8 - 9g
Carbohydrate	40 - 45g
Total fat	1 - 2g
Dietary fibre	2 - 3g
Sodium	< 380mg
Micronutrient	**Per 100g**
Vitamin A (Retinol)	70mcg
Thiamin	0,3mg
Riboflavin	0,1mg
Niacin	4,2mg
Pyridoxine	0,3mg
Folic acid	0,01mg
Iron	3,5mg
Zinc	3mg

3.9.3 Microbiological and Chemical requirements

The microbiological counts should be as follows:

- Total count = 25 000/g max
- Yeasts and moulds = 800/g max

- Coliforms = 60/g max
- Should be free from pathogenic microorganisms

3.9.4 Organoleptic and sensory properties

- Bread should have been treated, prepared and processed in such a manner that it contains not less than 3,3% (m/m) of fat on a moisture free basis and has an acid detergent fibre content of not less than 0,93% (m/m) and not exceeding 2,97% (m/m) on a moisture free basis.
- Light brown sides with a darker brown top crust.
- Bread should be fresh when delivered.
- Bread should be moist and not dry when delivered.
- The texture should be feather-light and smooth.
- The bread should have a rectangular shape and all slices should be the same size;
- The size of loaf should be:
    - Length - 26cm
    - Height - 11cm
    - Width - 8cm
    - Weight -700 - 800g
- Minimum of 20 slices per loaf with crust
- The concentration of total chlorides, expressed as sodium chloride, should not exceed 1,4% by mass.
- The moisture content of the bread should be not less than 26% and not more than 39% by mass.

3.9.5 Packaging and Labelling

- The packaging should be marked and labelled in accordance with the RegulationR146 Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- The bread should be covered in clean plastic bags to prevent water loss and packed in crates,
- The bread should be sliced when delivered to schools

3.9.6 Storage and Shelf life

- Bread should have a shelf life of at least seven (7) days at room temperature

3.10 Potatoes

3.10.1 Definition

Is a starchy tuber of the plant *solanum tuberosum*

3.10.2 Class 1 and 2 should comprise potatoes that:

- Should have an attractive appearance, well-formed and free from soil or sprouts

- Not damaged by insects, disease or in any other way
- Free from decomposition or decay, hollow heart and foreign matter
- Should have no greening, not wilted or watery
- Not affected by nut grass, other plants, or brown fleck
- Should have average weight of 170g

3.10.3 Packaging

- Potatoes should be packed in opaque, brown bags that are intact and strong
- Potatoes may also be packed either cubed or diced in strong transparent bags

3.10.4 Shelf life

- Should have a shelf life of at least two (2) weeks in cool dry place

3.11 Sweet potatoes (Orange Fleshed Sweet Potatoes)

3.11.1 Definition

Large roots of a tropical plant that have orange skin and orange flesh, they are eaten as vegetables, and they taste sweet.

3.11.2 Physical requirements

Sweet potatoes should be:

- Fairly clean, free from foreign matter such as soil
- Well formed, fully grown and not be sprouting, defective, wilted
- Sweet potatoes in any one particular container should be of the same class
- The minimum mass of the tubers should be 170g

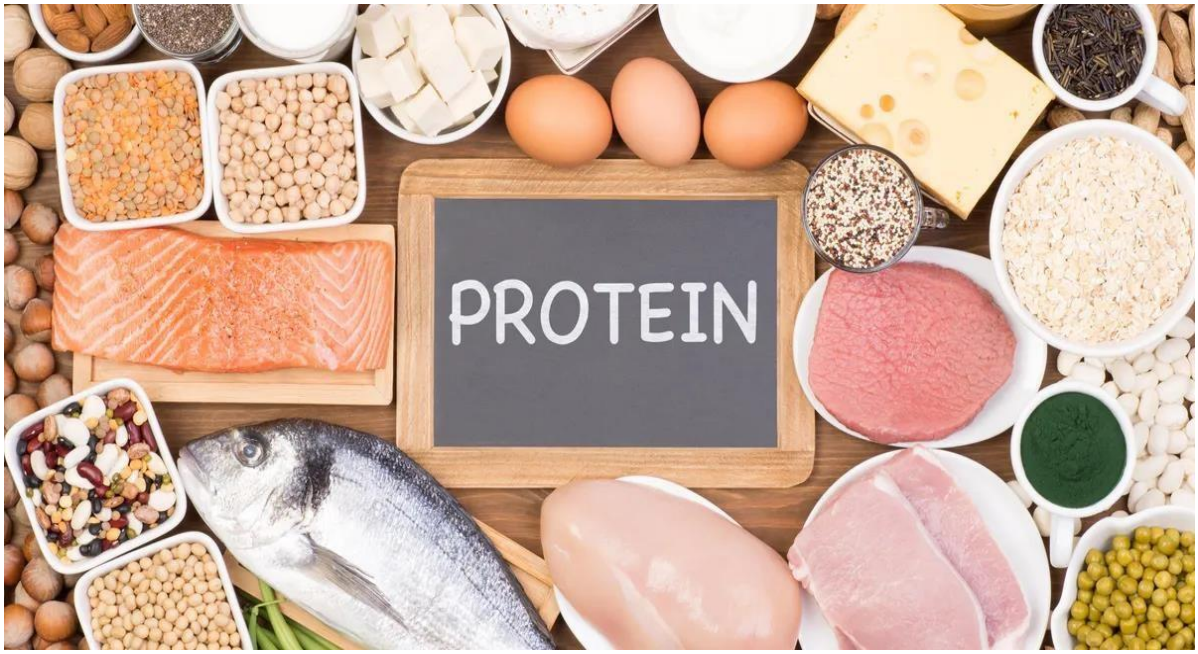
3.11.3 Packaging and storage

- Sweet potatoes should be packaged in mesh bags and should be stored at in room temperature
- Good agricultural practices, proper harvesting and proper storage during transportation is important to protect the produce from damage and spoilage

3.11.4 Shelf life

- Should have a shelf life of at least four (4) weeks

4. Protein



4.1 Beans-Dehydrated Legumes (pulses) Grade 1 or 2

4.1.1 Definition

Dry beans are the edible nutritious seed of various plants of the legume family, especially of the genus *Phaseolus*. They are an economical source of vegetable protein, excellent source of fiber (both soluble and insoluble) and an excellent source of minerals and vitamins.

4.1.2 Nutrient Composition

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**Per 100g**
Energy	1350 -1400kj
Protein	20 - 25g
Carbohydrate	50 - 65g
Total fat	1 - 2g
Dietary fibre	10-15g
Moisture content	<14%

4.1.3 Microbiological requirements

- The product should be free from microorganisms which may represent a hazard to health

- Moulds and yeasts should be absent
- According to the Foodstuffs, Cosmetics and Disinfectants Act,1972 (Act 54 of 1972) and its Regulations legumes should not contain more than 10 µg/kg of aflatoxin, of which aflatoxin B1 may not exceed 5 µg/kg

4.1.4 Sensory properties

- The seeds should not be damaged, wrinkled nor have holes. They should also be free from insects, disease infestation and weed seeds

4.1.5 Packaging

- The dry beans should be packaged in polypropylene plastic bags or in sacks to protect the contents against contamination and should not impart any undesirable flavour or odour
- The bags should be strong enough to prevent any breakage or splits

4.1.6 Labelling

- The product should be labelled in accordance with the relevant regulations as amended

4.1.7 Storage

- The product should be stored in a cool dry well ventilated atmosphere so as to prevent product spoilage

4.1.8 Shelf-life

- Shelf life of nine (9) months on date of delivery

4.2 Lentils (brown/red/green)

4.2.1 Definition

The lentil is an edible pulse of the legume family, known for its lens-shaped seeds.

4.2.2 Nutritional composition

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**Per 100g**
Energy	1350 -1400kj

Protein	20 - 25g
Carbohydrate	50 - 65g
Total fat	1 - 2g
Dietary fibre	10 -15g
Moisture content	<14%

4.2.3 Microbiological requirements

- The product should be free from microorganisms which may represent a hazard to health
- Moulds and yeasts should be absent
- According to the Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972) and its regulations legumes should not contain more than 10 µg/kg of aflatoxin, of which aflatoxin B1 may not exceed 5 µg/kg

4.2.4 Packaging and Labelling

- The lentils should be packaged in polypropylene plastic bags or in sacks
- Should be manufactured from a material that will protect the contents against contamination
- The container should not impart any undesirable flavour or odour to the contents, and be clean
- The bags should be strong enough to prevent any breakage or splits.
- The product should be labelled in accordance with the relevant regulations as amended

4.2.5 Storage

- The product should be stored in a cool dry well ventilated atmosphere so as to prevent product spoilage

4.2.6 Shelf life

- The product should have a minimum shelf life of nine (9) months

4.3 Fish (Canned Pilchards in Tomato)

4.3.1 Definition

Pilchards are an oily fish that can be bought fresh or canned. They are an excellent source of omega 3 fatty acids; they are also a good source of protein and calcium. Product should be nothing else but canned Pilchards in Tomato Sauce.

4.3.2 Processing

- The products should be filled under hygienic conditions into containers that have been thoroughly cleaned.
- The filled containers should be exhausted, hermetically sealed and thermally processed to reduce the number or activity microorganisms.
- The filing, exhausting sealing and heat processing of containers should be performed in such a manner that the end, the cans are not convex or become so under normal transport and storage conditions.
- Fish for processing, at sea and on land should be stored, handled and transported in proper hygienic standards. Fish should be processed as soon as possible after being caught.
- Where not frozen immediately it should be kept at a temperature not exceeding 10 degrees Celsius until processing commences.
- When being thawed for subsequent processing, frozen fish should not be exposed to any temperature higher than 20 degrees Celsius and the thawing should be completed in less than 20 hours.
- Unless processed immediately after thawing is complete, the chilling of thawed fish to 0.5 degrees Celsius should commence immediately.

4.3.3 Nutrient Composition

At the time of packaging, the nutrient values should not be significantly more or less than the following as shown in table below:

Nutrients	**Per 100g**
Energy	400 - 500kj
Protein	**15 - 20g**
Carbohydrate	1 - 2g
Total fat	5 - 7g

Dietary fibre	1 - 2g
Calcium	300mg
Cholesterol	68mg
Iron	3mg
Magnesium	39mg
Phosphorus	350mg
Potassium	420mg
Sodium	< 650mg

Drained mass of pilchards should be a minimum of 65%

4.3.4 Microbiological requirements

- The product should be free from any pathogenic microorganisms and or their toxins at levels that present no hazard to the consumer
- When examined or tested should show no evidence of microbiological spoilage
- The product should undergo commercial sterilization

4.3.5 Physical requirements

- The pilchards in tomato sauce may contain the following ingredients: Pilchards, tomato paste, salt, water, thickener, spice and oil
- The pilchards in brine (natural) may contain the following ingredients: pilchards, water and salt

4.3.6 Organoleptic and sensory properties

- Whole or sliced pilchards of approximately 10cm in length in a thickened tomato sauce with an acceptable tomato red colour
- Pilchards should be firm and fresh with a strong fish flavour and aroma that should be complimented by the flavour of the tomato sauce
- The fish should not be mushy and individual pieces of fish should retain their shape
- The pieces of fish should separate easily

4.3.7 Packaging and Labelling

- The product should be packed in cans or in pouches with reference to 400g
- The product should be labelled and marked in accordance to (NRCS) (Act No. 5 of 2008 but amended by metrology)
- At the time of dispatch from the factory the containers should be free from corrosion and deformity
- The package should have the brand name, country of origin, nutrient content, expiry date

(Best-before, Use-By), preparation instructions and storage conditions printed on the package

- The final product should not contain any **Tartrazine and MSG**
- Trans-fats and hydrogenated fat should not be used **(no palm oil)**

4.3.8 Storage

- The product should be stored under clean cool conditions, handled and transported in the appropriate manner, to prevent damage to the product containers and food products

4.3.9 Shelf life

- A minimum shelf life of three (3) years

4.4 Processed Livers (Canned/HPP)

4.4.1 Definition

Liver is not red or white meat; it is classified as organ meat. Organ meat contains more nutritional content than regular muscle meat. Humans benefit more from livers than red meat because it contains high quality protein, lower contents of fat, cholesterol and high iron.

Livers are widely consumed due to their low cost, high nutritional value, and short preparation time. They have essential amino acids, and minerals such as iron, copper, and zinc, which are sometimes higher, compared to muscle tissue.

4.4.2 Nutritional information

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrient	**Per 100 g**
Protein	15 - 20g
Fat	4 - 6g
Iron	≥ 3mg
Vitamin A (Retinol)	≥ 200mcg
Sodium	< 650mg

Drained mass of livers should be a minimum of 55%

4.4.3 Microbiological requirement

- Livers have neutral pH and high water activity which makes it highly perishable due to microbial growth

- Bacterial contaminants can be introduced along the food chain, slaughter, production or processing, handling, storage, and preparation
- The product should be free from any **pathogenic** microorganisms *(Clostridium perfringens, E. coli, Listeria monocytogenes, Staphylococcus aureus, Shigella, Salmonella and Coliforms*) microorganisms and or their toxins at levels that present hazard to the consumer
- When examined or tested should show no evidence of microbiological spoilage or of the presence of **viable pathogenic organisms**, should undergo Commercial sterilization

4.4.4 Methods of preserving chicken livers

(i) High Pressure Processing (HPP)

High Pressure Processing (HPP) is a non-thermal food preservation method that guarantees food safety and achieves an increased shelf life, while maintaining the organoleptic and nutritional attributes of fresh products. It is a new technology used in the food industry where food is preserved in pouches by subjecting pouches to 12 times deep ocean cold pressure where all pathogenic microorganisms are destroyed.

(ii) Canned/ Retort livers (Sterilisation)

Ultra High Temperature (retort) uses high temperature to destroy pathogenic microorganisms and this directly increases shelf life

4.4.5 Sensory

- Livers should be brown in colour with no blood in the core
- Livers should be tender, creamy and smooth in texture
- Livers should have a pleasant taste with meaty flavour

4.4.6 Packaging and Labelling

(i) High Pressure Processing (HPP)

- Packaged in 1kg and 3kg Polyamide and Polyethylene pouches packaged in boxes
- The packaging should be marked and labelled in accordance with Regulation R146 in the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- Labelling: should be printed on the package and the sticker should not peel off
- Should have the brand name as well as nutritional content of the product printed
- Country of origin, address, expiry date, preparation instructions and storage conditions should be printed on the package

- The final product should not contain any **Tartrazine and MSG**
- **Trans-fats** and **hydrogenated** fat should not be used (**no palm oil**)

(ii) Retort / Canning

- The product should be packed in cans or pouches with reference to 425g
- The product should be labelled and marked in accordance with the relevant Acts and regulations, and the drained mass should be present on the label
- At the time of dispatch from the factory the containers should be free from corrosion and deformity
- The package should have the brand name, nutritional content and country of origin.
- An expiry date (best-before date and use-by date should be clearly identified), preparation instructions and storage conditions should be printed on the package
- Trans-fats and hydrogenated fat should not be used **(no palm oil)**

4.4.7 Storage

- **HPP** livers should be stored both before and after packaging under clean, **cool conditions** handled and transported in cold chain to prevent damage and spoilage to the product
- **Canned/pouches** livers should be stored at **room temperature** and handled in appropriate manner during transportation to prevent damage and spoilage to the product

4.4.8 Shelf life

- **HPP** livers should be consumed within **7 days if not refrigerated**, and stored for **45 days in the refrigerator (cold storage)**
- **Canned/ pouches** livers should have a minimum shelf life of three (3) years

4.5 Ultra High Temperature (UHT) treated milk

4.5.1 Definition

Milk can be describe as whitish liquid containing proteins, fats, lactose, and various vitamins and minerals that is produced by the mammary glands of all mature female mammals.

4.5.2 General Requirements

- The milk should come from herds free of tuberculosis, brucellosis or any other dangerous diseases
- Milk should be from certified diary suppliers and should not be diluted
- Milk should be Ultra-High Temperature (UHT) treated (138-150°C for 2- 4 sec) as it kills harmful bacteria that can cause spoilage and increase the shelf life without refrigeration
- product should have a pure and fresh characteristic of milk flavour

- The strict hygiene measures should be applied in the production, handling and delivery of milk, and the dairy industry should be inspected at any time during the contract period

4.5.3 Nutritional Requirements

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrient	**Per 100g**
Energy	250 - 300kj
Protein	3 - 4g
Carbohydrate	4 - 7g
Total fat	3 - 4g
Cholesterol	< 16g
Dietary fibre	< 0.5g
Sodium	< 40mg

4.5.4 Microbiological requirements

Micro-organism	**Maximum level**
Total plate count, per 10 ml	10
Total Coliforms per mL	Absent
Escherichia coli per mL	Absent
pH	6.5 - 6.8

4.5.5 Packaging and labelling

- UHT milk should be packaged in suitable, sealed package that are capable of protecting the contents against contamination under normal conditions of storage, handling and transport
- The milk should be packaged in cardboard cartoons

The package should be:

- Lightproof, gas proof, mechanically strong and non-toxic
- Not impart any off-flavour to the milk
- Able to allow hermetic sealing

- Packages should be not deformed, creased, dented or have crushed corners
- Milk should be packaged in 200ml or 1l cartons

4.5.6 Storage

- The milk should be stored under dry, ventilated and hygienic conditions (room temperature)

4.5.7 Shelf life

- **UHT milk** should have a shelf life of at least six (6) months

4.6 Amasi/Maas

4.6.1 Definition

Amasi/Maas is made from fermenting or culturing milk, this thickens the milk and changes the milk sugars, making the product a perfect choice for the lactose intolerant. The product is high in minerals and have a Low Glycemic Index, which help in weight loss, it also helps in digestion.

4.6.2 Standards for Amasi (R.1510 of 22 November 2019)

(a) Amasi should be:

(i) Obtained from heat treated milk and/or reconstituted or recombined milk that has been inoculated with a culture to produce a microbiological flora under controlled conditions

(ii) Not be subjected to heat treatment after fermentation

(iii) Contain at least 10^7 colony forming units per gram (CFU/g) of viable lactic acid or lactic acid and aroma producing micro-organisms

(iv) Have a pH value of less than 4.6

(b) The word “amasi” in the alternate class designation may be substituted by the word “amazi” or “maas”

Table 4.6.3 Classes and applicable standards for Amasi

Type of primary dairy product	Class/ Class designation	Alternate class designation	Milk fat content (%)(m/m)	Minimum milk solids non-fat content		Minimum milk protein content calculated on a fat-free basis (%)(m/m)
				Calculated on the total content (%)(m/m)	Calculated on a fat-free basis (%)(m/m)	
1	**2**	**3**	**4**	**5**	**6**	**7**
Cultured milk	Cultured high fat milk	High fat amasi/ High cream amasi	More than 4.5	8.2	8.6	3.0

	Cultured full fat milk	Amasi/ Full fat amasi/ Full cream amasi	More than 3.3 - 4.5	8.3	8.6	3.0

4.6.4 Marking requirements of containers and outer containers for Amasi

(a) The container of Amasi should be marked with the following particulars:

(i) The class designation or alternative class designation as specified in column 2 and 3 of the **above Table 4.6.3**

(ii) The name and physical address of the manufacturer, packer, owner and country of origin

(iii) The date marking (i.e. **"best before"** or **"best quality before"** or **"use by"** or **"expiration")**

(iv) The indication of the word “Pasteurised” on its own on a container of Amasi constitutes a misrepresentation regarding the nature and composition of the product concerned

(V) Labelling should include: Pasteurized milk as an ingredient

4.6.5 Sensory properties

- Liquid like beverage, like yoghurt or butter milk
- Should have a creamy white colour, with a smooth texture and a distinct sour taste

4.6.6 Packaging and labelling

- Amasi/Maas should be packaged in 2l and 4l opaque yellow high-density polyethylene bottles

4.6.7 Storage and shelf life,

- The product should be stored at room temperature for seven (7) days
- 21 days in refrigerator (0 - 4°C)

4.7 Soya mince (Uncooked)

4.7.1 Definition

Soya beans are ground into fine flour, mixed with water and shaped into desired form.
Soya mince is a product made out of Texturized Vegetable Protein (TVP). TVP is a type of protein obtained from soya beans, manufactured to resemble minced meat and meat chunks/cubes.

Soya foods are excellent sources of high quality protein, polyunsaturated fat and good source of fibre with lower carbohydrates. The protein quality of soya is similar to that of meat and dairy protein but higher than that of all plant proteins.

4.7.2 Nutritional information

Quality nutritional factors of the TVP product per 100g

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below**:**

Nutrients	**Per 100 g revised**
Energy	900 - 1100g
Moisture content	< 9g max
Protein content	> 48g
Total Dietary fibre	15 - 20g
Crude fibre content	4 - 6g
Total fat content	<1g
Energy	1300 - 1500kj
Iron	3mg
Zinc	3,7 mg
Sodium	< 1500mg
Calcium	300mg
Iron	12mg
Zinc	15mg
Vitamin A	< 300 mcg 1000 IU

4.7.3 Requirements

- Soya mince should resemble the meat in colour, flavour, texture and shape
- Hydrated soya mince grains should be the size of mince, size ranges from 12mm to 18mm
- **Cooking instructions should read: 1 part of soya to 3 parts of water**
- **95% TVP with 5% spices**, **spices should be packaged separately**

Example is as follows:

- **25kg bag of Soya mince should** have **95% TVP** (23,75kg) with **5**% spices (1,25kg), **whilst 1kg bag should have** 50g (5%) spices
- Packaging size given is just an example, kindly note that maize flour is excluded as an ingredient
- The 5% spices include all other addictive's such as salt, thickeners and supplements
- Trans-fats **and** hydrogenated **fat should not be used (**no palm oil**)**
- The final product should not contain any **Tartrazine and MSG**

4.7.4 Microbial requirements

- A product should be tested in SANAS accredited laboratory
- It should be free from pathogenic microorganisms
- The following organisms should be less than 10 per 25 g of the product when the product is tested using the SANAS recommended test;
  - *Escherichia coli, Staphylococcus aureus and;*
  - *Clostridium perfringens*

4.7.5 Packaging and Labelling

- Products should be packaged in Laminated Poly-Propelyn bags
- Packages should be sealed and should not change the product in any form, should protect the product against deterioration and damage
- The packaging should be marked and labelled in accordance with the relevant Acts and Regulations (R146 Labelling and advertisement)
- The labelling should be printed on the package
- Nutritional information should be printed on the package
- Production date, Best Before, used by Date, preparation instructions and storage conditions should be printed on the package
- Allergen soya should be indicated outside package
- **Cooking instructions should read: 1 part of soya to 3 parts of water**

4.7.6 Storage

- The product should be stored at room (ambient) temperature, away from direct sunlight and moisture. It should be stored on a lined pallet, away from walls and off the floor in a cool dry well-ventilated place

4.7.7 Shelf life

- The product should have a minimum shelf-life of nine (9) months

4.8 Ready to Eat Soya Bolognaise (Cooked)

4.8.1 Definition

Ready to Eat Soya, is a soya mince that is already prepared or cooked in advance (meat flavoured), with no further cooking or preparation required before consumption.

4.8.2 Nutritional information

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**Per 100 g**
Energy	400 - 450kj
Protein	10 - 15g
Total fat	5 - 6g
Fiber	6 - 8g
Calcium	135mg
Sodium	< 650mg
Iron	3 - 5mg
Vitamin A	43mcg or 146 IU

4.8.3 Microbial requirements

- The product should be free from viral microorganisms and commercial sterilization in (retort products)

4.8.4 Packaging High Pressure Processing (HPP)

- Products should be packaged in Polyamide and Polyethylene pouches
- Packages should be sealed, should not change the product in any form, and should protect the product against deterioration and damage

4.8.5 Packaging (Canned or Retort)

- Packaged in can or pouches with reference to 425g

4.8.6 Labelling

- The packaging should be marked and labelled in accordance with the relevant Acts and Regulations (R146 Labelling and advertisement)
- The labelling should be printed on the package
- A complete list of ingredients should be declared on the label
- Nutritional information should be printed on the package
- Production date, Best Before, Use by Date, preparation instructions and storage conditions should be printed on the package

- Allergen soya should be printed on the package
- The final product should not contain any **Tartrazine and MSG**

Note: The protein content per 100g is 10 - 15g because it is already diluted to 1 part of soya to 3 parts of water during cooking

4.8.7 Storage and Shelf life (HPP)

- 14 days at ambient temperature
- 90 days in the refrigerator

4.8.8 Storage and Shelf life (Canned/Retort)

Should have a shelf-life of three (3) years at room temperature

4.9 Eggs

4.9.1 Definition

Eggs are the most common food consumed throughout the world. It is a hard-shelled reproductive body produced by a bird. Eggs of various birds may be eaten however; eggs of chickens and ducks are most consumed. Egg protein contains all the essential amino acids.

4.9.2 Standard for Eggs (R.345 of 20 March 2020)

Table 4.9.2 (a) General requirements for eggs

Requirements for approval	Compliance criteria
1.Classes	(i) Class 1 and 2
2. Container requirements	(i) Shall be intact (ii) Does not impact any taste or odour (iii) Shall be strong that it protects the eggs during normal handling or transportation (iv) may be new or recycled
3. Marking requirements	(i) Size and grade of eggs indicated on the front or top panel of the container; **Medium** (50g) should be used in NSNP (ii) Product type e.g., Eggs (iii) Specific production methods, namely “Cage”, “barn”, or “free range” (iv) Registered trademarks or brand names which include the name of farm or packer owner or producer (v) Expression “Pasteurised”

	(vi) If eggs were obtained from the species *Gallus domesticus*, the name of the species from which the eggs were obtained shall be indicated on the front or top panel (vii) Best before or best quality date, unpasteurised eggs shall not exceed **40** days from the date of lay the eggs and pasteurised eggs should not to exceed 50 days from the date of lay of the eggs (viii) The country of origin (ix) Eggs during high-risk period of Highly Pathogenic Avian Influenza (HPA) or during an outbreak of virulent Newcastle disease house free range for a period of 24 weeks during a year (x) If the 24 weeks' confinement period is exceeded, all eggs produced thereafter, shall be marked and presented for sale as "barn eggs"

Table 4.9.2 (b) General Quality factors for eggs

Quality factor	**Compliance criteria**
1. Soundness of shell	No cracks
2. Cleanliness of shell	Clean
3. Shape of shell	Regular
4. Texture of shell	Strong and smooth
5. Blood spots	None
6. Meat spots on eggs	None
7. Mould	None
8. Poultry faeces	None
9. Abnormal or unacceptable odours	None
10. Yolk	Normally positioned, not spotted, flat or enlarge characteristic colour
11. Egg white	Clear: provided that pasteurised egg white are slightly opaque

4.9.3 Microorganism

- No *Salmonella* species in a sample of 25 grams of the product
- *Staphylococcus aureus* absent in 1ml or g
- Mesophilic aerobic bacterial should not exceed 20000 CFU per g
- Coliform should not exceed 50 per g or ml
- Yeast and mould should not exceed 200 per g or ml

4.9.4 Packaging

- Egg packaging should be strong, unbroken and closed properly to protect the eggs during storage, handling and transportation
- Should be packaged in filler polystyrene package
- Name of the product, the name of company, country of origin, details of packer, the best before date, the number of eggs, size should be correctly labelled outside the package

4.9.5 Storage of eggs

For the successful storage of eggs, the following conditions:

- The storage room should be free from tainting products
- Should be cleaned regularly with odourless detergent sanitizers
- The storage room should be kept at a constant temperature (10 - 13°C) and humidity of 75 to 80 RH
- Eggs should be stored in way which allow them to breathe
- The eggs should be protected at all times against mechanical damage and exposure to temperatures that cause deterioration in quality as well as contamination

4.9.6 Shelf life

- Shelf life of forty (40) days and stored at room temperature

Example of Labelling

Brand name: XX Processed pilchards

Ingredients: pilchard and other ingredients

Cooking instructions: Heat for five (5) minutes

Allergens:

nufactured in a factory that may contain: e.g milk. Egg. Fish, Wheat, and Soya

***Typical Nutritional Values**	
	Per 100g
Energy	1400 - 1500kj
Protein	15 - 20g
Carbohydrate (Total)	4 - 5g
Total sugar	x
Fat (Total)	x
Saturated	x
Unsaturated	x
Mineral	x
Fibre	x
Moisture content	x
Other	x

Input Barcode

Date of Production: 10/06/2023

Best Before: 10/06/2026

Expiry or use by date: 10/08/2026

Batch No: xxxxxx

Storage conditions: Cool dry place

Country of origin: South Africa, Gauteng

Manufacturers Address: Struben Street Pretoria 0001

Customer Hotline: xxxxxxxxxxxxx

Net Mass of the product: 400g

5. Fresh fruit

5.1.1 Definitions

“Blemishes” means surface spots, hail marks or other discolouration on the surface of the fruit, which detrimentally affects the general appearance of any particular unit

“Clean" means free from dirt, spray residues or other foreign matter

"Decay" means a state of fungus development, decomposition or insect infestation that partly or wholly affects the quality, health or edibility of the fruit detrimentally

“Diameter” means the greatest distance through the middle of the fruit, measured at a right angle to a line running from the stem end to the apex

"Mature/maturity" means that the fruit has reached a stage of development that will ensure ripening and a good eating quality

"Overripe" means a soft, moist condition in which the fruit is not firm and can no longer withstand normal handling

“Rough browning” means browning that shows roughness, coarseness or cracks, which detract from the appearance of the fruit

"Well formed" means that the form is characteristic of the cultivar

"Woolly" means that the flesh of the fruit is partly or completely spongy, dry and possibly floury with a bad taste or a taste not characteristic of the fruit in question

5.1.2 General

- All fresh fruit should be free from insects, decay, blemishes, bruises, foreign matter including soil, foreign odours, insect and disease damage and injury as well as damage.
- The name of the product, class, size, use-by date and the address of the producer should appear on the packaging

5.1.3 Delivery

- The fresh product should be delivered once a week

5.1.4 Storage

- The product should be stored in clean, cool and dry conditions away from direct sunlight

5.1.5 Shelf-life

- The product should have a shelf life of at least 7 days when stored under clean and dry conditions at room temperature

5.1.6 Quality inspection of certain Agricultural Products in terms of the APS Act

5.1.6 FRESH FRUITS (APPLES, TABLE GRAPES, CITRUS FRUIT AND BANANA)

Table 5.1.6 (a): General requirements for apples, table grapes, citrus fruits and banana.

Requirements for approval	**Compliance criteria**
1.Class designation	Class 1 and 2
2.Comply with standards for classes	(i) Be fit for human consumption **(See photo below)** 
3. Container requirements	(i) Be clean, dry, suitable and undamaged; and (ii) Be strong and rigid enough to ensure that the original shape be retained **(See Photo below)** 

4.Provision concerning presentation	(i) Package should be uniform, same variety, quality and size (if sized) and the same degree of ripeness (ii) Package should be representative of the entire contents except for mixed sizes and varieties **(See Photo below)** 
5. Marking requirements	(i) Product type e.g., Grapes (iii)The appropriate cultivar e.g., Barlinka (iv)Class indication e.g., Class 1 (v) Berry size e.g., 180 (vi) Name and physical or postal address of the producer or owner **(See Photo below)** 

Table 5.1.6 (b) General Quality Standards for apples, table grapes, citrus fruits and banana

Quality factor	Compliance criteria
1. General appearance	Sound, attractive, clean, fresh, intact and true to cultivar 
2. Maturity	Mature, firm, shall not show any signs of softening 
3. Decay	Be free from decay
	 
4. Blemishes	Be free from blemishes 

5. Bruises	Be free from bruises 
6. Sunburn	Be free from sunburn 
7. Any other internal or external factors not listed above	Be free from any other factors that affect or may affect the quality detrimentally

6. Fresh Vegetables

6.1.1 Definitions

"Blemish": means any external skin defect on the surface of the fresh vegetable, which detrimentally affects the appearance of the vegetable

"**Bruise":** means any pressure wound which shows an indentation or results in discoloration directly under the skin, adversely affect the quality and is visually noticeable on the fresh vegetables during handling

"Compact": means that the flower clusters are massed tightly in the head and the flower stalks feel fir

"Damaged": means blemishes that may detrimentally affect the appearance of the edible parts of the head

"Decay": means a state of decomposition, fungus development or internal insect infestation which detrimentally affects the quality of the fresh vegetables

"Foreign matter": means any material or substance which does not naturally form part of the vegetable concerned and is visually noticeable

"Injury": means any wound or puncture which has pierced the skin of the vegetable and exposes the flesh, as well as insect puncture marks, which have pierced the skin with the exception of such wounds, or puncture marks, which have become completely calloused

"Loose": means that the flower clusters of the head are beginning to lengthen, which causes the clusters to separate and the head to acquire an open appearance

"Overripe": means the growth stage after that of a compact, properly developed head

"Woolly": means that the surface of the head has a velvety or hairy appearance

6.1.2 General

- All vegetables should be free from insects; Insect damage and injury; decay; blemishes bruises; foreign matter including soil; foreign odours; free from diseases and any form of pesticide (insecticide, fungicide, etc.
- The name of the product, class, size, use-by date and the address of the producer should appear on the packaging

- All fruits and vegetables should be produced in accordance with good agricultural practice (GAP) guidelines

6.1.3 Delivery

- The fresh produce should be delivered once a week

6.1.4 Storage

- The product should be stored in clean, cool and dry conditions away from direct sunlight

6.1.5 Shelf life

The product should have a shelf life of at least seven (7) days when stored under clean and dry conditions at room temperature. Level of maturity, stage of ripeness and uniformity should be considered. Products, which shows sign of sprouting, dehydration, chilling injury, mechanical injury, loss of green colour and high respiration products, should be avoided.

Table 6.1.6 (a): General requirements for vegetables.

Requirements for approval	**Compliance criteria**
1.Class designation	Class 1 and 2
2.Comply with standards for classes	(i) Be fit for human consumption
3. Container requirements	(i) Be intact, clean, dry, suitable and undamaged; and (v) be strong and rigid enough to ensure that the original shape be retained
4.Packaging requirements	(i) Package should be uniform, same variety, quality and size (if sized) and the same degree of ripeness; and (ii) Package should be representative of the entire contents except for mixed sizes and varieties
5. Marking requirements	(i) Product type e.g., carrots; (ii) Name and physical or postal address of either the producer or owner; (iii) Class indication e.g., Class 1; and (iv) The total number of prepacked units per outer container

Table 6.1.6 (b): General Quality Standards for vegetables

Quality factor	Compliance criteria
1.General appearance	Sound, attractive, clean, fresh, and intact 
2.Maturity	Mature, firm, shall not show any signs of softening 
3.Decay	Be free from decay 
4.Blemishes	Be free from blemishes 

5. Injuries	Be free from injuries 
6. Bruises	Be free from bruises 
7.Sunburn	Be free from sunburn 
9. Any other factors not listed above	Be free from any other factors that affect or may affect the quality detrimentally

7. Other food items

7.1 Rooibos

7.1.1 Definition

Rooibos tea is also known as red tea, it is processed from leaves of shrub called *Aspalathus linearis*, is usually grown on the western coast of South Africa.

7.1.2 Nutritional information

- Rooibos is rich in polyphenolic antioxidants known as **chalconoids**. These are aromatic phenols which gives colour and fruity fragrance.
- Research studies shows that other compounds in rooibos tea exhibit antibacterial, antifungal, anti-tumor and anti-inflammatory properties. These are dihydro-chalcones such as **Aspalathin**, a dihydrochalcone glucoside and **Nothofagin**, a phloretin glucoside.

Principle	**Nutrient Value**
Energy	1 Kcal
Carbohydrates	0.20g
Protein	0 g
Total Fat	0 g
Vitamins	
Folates	1 µg
Riboflavin	0.004mg
Electrolytes	
Sodium	1mg
Potassium	9mg
Minerals	
Calcium	2mg
Iron	0.08mg
Magnesium	1mg
Zinc	0.04mg

7.1.3 Microbial properties

- Rooibos tea should comply with the following microbiological specifications :For rooibos tea in bulk, the total viable colony count should not exceed 50 000 colony forming units per gram
- The total viable colony count should not exceed 100 000 colony forming units per gram,
- Escherichia coli organisms should be absent in a sample of 1 g
- *Salmonella* organisms should be absent in a sample of 25 grams of the product
- Should not contain any insects or parts of insects

7.1.4 Regulations

- Rooibos tea should be pasteurized before packing
- The Perishable Products Export Control Board (PPECB) of South Africa ensures that all
- Rooibos products should be inspected for safety and quality
- It should be certified to be free from bacteria and impurities

7.1.5 Sensory

- The rooibos tea has attribute characteristic of honey, wood, herbal-floral flavour, a slightly sweet taste, astringent, caramel flavour and a sweet-associated fruity flavor
- The percentage foreign matter should not exceed 1% (m/m)
- The moisture content should not exceed 10%

7.1.6 Packaging and labelling

- Should be packed in display cartons or in pouches
- Pouches should protect the contents against contamination and any undesirable odour.
- The package should be strong enough for handling and transport practices

7.1.7 Storage

- The product should be stored in an airtight container away from light, odors, humidity, and heat

7.1.8 Shelf life

- The products should have shelf life of nine (9) months

7.2 Sugar

7.2.1 Definition

Sugar falls under carbohydrates, it has a sweet taste, can be found naturally in fruits, vegetables, milk, and milk products. It is used as a common ingredient to many foods and drinks during preparation or processing. Different types of sugar include glucose, fructose, and sucrose.

7.2.2 Nutritional information

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrient	**Requirement per 100g**
Energy	1500 - 1700kJ
Carbohydrate	95 -100g
Protein	<0.1g
Total Fat of which saturated fat	<0.1g <0.1g
Dietary Fibre	<0.1g
Total Sodium	<4 mg

7.2.3 Sensory evaluation

- Sugar should have dry, homogeneous granulated and free-flowing crystals, it should not form lumps
- The granules should be crystalline and uniform in size and free of foreign material
- At the time of packing, the moisture content should not exceed 0,05%
- Refined white sugar should be white, dry, odourless, granulated sucrose readily soluble in cold water, it should not have other taste than sweetness

7.2.4 Food additives and contaminants

The maximum content for sulphur dioxide (additive) should be 20 mg/kg, Arsenic (As) 1 mg/kg, Copper (Cu) 2 mg/kg and Lead (Pb) 2 mg/kg

7.2.5 Compulsory general requirements

- Sugar should comply with all applicable requirements in terms of the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), The Trade Metrology Act, 1973 (Act No 77 of 1973), Reg. 2362 of 1977 of the Marketing Act

7.2.6 Microbial requirements

Should not contain more than:

- 200 mesophilic bacteria/10 g
- 10 yeasts /10 g
- 10 moulds/10 g

7.2.7 Packaging

- Should be packaged in opaque and airtight package, Polyethylene bags, Mylar-type bags, food-grade plastic buckets suitable for dry sugar storage
- They should be sealed to be 100% effective
- The sugar should be packed into 1 to 25 kg poly bags
- The packages should be labelled in accordance with R146 of the Foodstuffs Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)

7.2.8 Storage

- Sugar should be stored in dry condition, should be stored in an odour free area, as it can easily absorb strong odours (even through plastic packaging)

7.2.9 Shelf life

- Sugar should have a shelf life of at least nine (9) months

7.3 Pure sunflower or canola oil

7.3.1 General Requirements

- The specifications cover cooking oils and salad oils derived from vegetable oils or marine oils (or blends of these oils) without the addition of anti-oxidants permitted by the regulations under the Foodstuffs, Cosmetics and Disinfectants Act
- The product should have an acceptable taste, a pleasant odour and an attractive sparkling transparent appearance
- No rancid, foreign or objectionable flavour or odour of any kind should be present

7.3.2 Microbiological Requirements:

- The product should be free from Lipolytic and Oxidative organisms, Moulds and Pathogens

7.3.3 Packaging, Labelling and Storage

- The product should be available in 2L and 5L quantities
- Oil should be packed in clean bottles or drums the inner surfaces of which have been tinned, lacquered or enameled
- Stored at room temperature
- The product should have a minimum shelf-life of six (6) months on date of delivery

7.4 Iodinated Salt

7.4.1 Definition

Salt is used as an ingredient or additives, it should not contain less than 97% crystalline sodium on a dry matter basis. **General Requirements** of table salt and coarse salt is that **it should be iodinated**.

7.4.2 Composition

- Mean aperture: 550 - 650 microns
- Colour IU max = 85
- Ash % max = 0.02 %
- Moisture max = 4 %
- Iodine = 40-60 ppm (mg/kg) in the form of potassium iodate (sample to be taken at manufacturer)
- Fluoride = 50 ppm (mg/kg)
- Table salt: Crystalline sodium chloride > 98,4% in its water-free state
- Coarse salt: Crystalline sodium chloride >97% on a dry matter basis
- The product may contain free flowing agent

7.4.3 Food additives and contaminants should be:

- Food Additives = Max level
- Sulphur dioxide = 20mg/kg
- Contaminants = Max level
- Arsenic (As) = 1g/kg
- Copper (Cu) = 2mg/kg
- Lead (Pb) = 2 mg/kg
- Raw materials and ingredients should be of food grade quality and should be free from extraneous matter and objectionable odours and flavours

7.4.4 Physical Requirements

- Salt should be free from foreign material
- At the time of packaging the moisture content should not exceed 0.05%
- Food salt should be soluble in cold water
- Food salt should be white, dry and odourless

7.4.5 Microbiological requirements

- Food salt should not contain any substances originating from microorganisms in amounts which may represent a hazard to health
- Food grade salt should be iodised to prevent iodine-deficiency disorders (IDD) for public health reasons
- The bags should be sealed, to protect the contents against microbial, insect and rodent infestation and mechanical damage
- The product should have an indefinite shelf life provided it is packed properly and when stored under cool dry conditions.
- The product should be stored in a cool dry well ventilated location

7.5 Spices

7.5.1 Definition

This specification covers herbs and spices under the following categories, Pepper (white and black); Curry powder; Turmeric; Paprika; Coriander; Ginger (ground); Mixed herbs; Breyani mix; Barbeque spice and Chicken spice.

7.5.2 Requirements:

- The product should be in the form of a fine powder, except the mixed herbs
- Should be free from objectionable odour, insects and fungus infestation
- Insoluble matter: should be not more than 0,1% by mass
- Free moisture should not exceed 0.3%
- The products should have a flavour characteristic of the specific herb/spice variety Sodium <13000 mg

7.5.3 Microbial requirements:

- It should not contain the following bacteria in a sample of 20 grams of the product:

  - *Bacillus cereus*

  - *Clostridium perfringens*

- *Escherichia coli*

- *Staphylococcus* aureus

- Total aerobic bacteria: $<10^6$ per gram
- Yeasts and moulds: $<10^4$ per gram
- Coliforms: $<10^3$ per gram
- *Bacillus cereus:* $<10^3$ per gram
- No *Salmonella* species in a sample of 25 grams of the product

7.5.4 Packaging

- Herbs and spices should be available in 1 kg packages. Each package should contain not less than 990g and not more than 1020g
- The packages should be made of polyethylene-coated cellophane, be sealed to be 100% effective and should also serve to provide protection against deterioration, mechanical damage, contamination and insect infestations

7.5.5 Shelf life and storage

- All the products should show no significant degree of deterioration in either flavour or textural properties within nine (9) months of the date of manufacturer
- Herbs and spices should be stored in room temperature and not be stored in direct contact with floor surfaces or near strong smelling and hazardous materials

8. Spreads

8.1 Soft Margarine

8.1.1 Definition

Margarine is produced by combining several different types of vegetable oil, water, salt, and other additives. It is originally extracted from animal fat, but today margarine is mostly made from vegetable oils, including corn, cottonseed, safflower, soy and sunflower. The oil is first hydrogenated, a chemical process where hydrogen gas is forced into unsaturated fatty acids to make the oil become partially saturated. The reason margarine goes through this process is so that it can achieve a solid texture at room temperature, allowing for a similar appearance and consistency of butter. Margarine is low in saturated fatty acids; it contains monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA), which are healthy fats.

Table 8.1.2 General quality standards for Fats spread

Requirements for approval	Compliance criteria
1.Classes and Standards	I. Class 1 and 2; II. Medium fat, Yellow 60% fat spread,
2. Container requirements	I. Be made from a material that is suitable for this purpose; II. Protect the contents thereof from contamination; and III. Will not impart any undesirable flavour to the contents thereof; IV. Be so strong that it will not tear or break during normal storage, handling and transport practices; V. Be unbroken; and VI. a re-usable container should be thoroughly cleaned and sterilized before use; and be closed properly in a manner permitted by the nature thereof.
3. Marking requirements	I. Class designation and additions to the class designation; II. Additional particulars; III. Name and address of the manufacturer, importer or seller; IV. Date marking; and V. The country of origin

8.1.3 Nutritional information

	Per 100ml
Energy	2000 - 2300 kJ
Protein	< 0.5g
Carbohydrate	< 1g
of which total sugar	0.4g
Total Fat	60 - 70g
of which saturated fat	15 g
monounsaturated fat	30g
polyunsaturated fat	15g

trans fat	< 0.1g
Cholesterol	< 2g
Total Sodium	< 450mg

8.1.4 Microbial requirement

Recommended limit for spreads:

Total viable bacteria= $<10^4$ cfu/g, Yeast and mould= 102 cfu/g, *E. coli*= 10 cfu/g, *Staphylococcus aureus*= $<10^2$ cfu/g.

8.1.5 Sensory Properties

- It should have a clean and pleasant flavour
- It should be reasonable soft on the palate
- It should be easily spread at room temperature

8.1.6 Shelf life

- Shelf life of 2 - 3 days at room temperature
- 1 - 2 months in the refrigeration temperature
- 6 - 8 months in the freezer

8.2 Peanut butter

8.2.1 Definition

A food product prepared from the roasted and finely ground kernels of clean, sound shelled blanched peanuts, with the addition of a suitable stabilizer that prevents oil separation and with or without the addition of a permitted anti-oxidant, sugar and salt. These specifications cover peanut butter of two types i.e. Smooth textured and Crunchy textured.

8.2.2 Requirements

The peanut butter should be prepared from dry roasted clean, sound mature peanuts from which the seed coat and embryo have been removed ingredients includes: peanuts, sugar, salt, and hydrogenated vegetable fat.

8.2.3 Nutritional Requirements

At the time of packaging, the nutrient value should not be significantly more or less than the following, as shown in the table below:

Nutrients	**Per 100 g**

Energy	2500 - 2700kj
Protein	20 - 25g
Carbohydrate	10 -15g
Of which total sugar	5 -10g
Total fat	50 - 55g
Saturated fat	5 - 10g
Monounsaturated fat	35 - 40g
Polyunsaturated fat	5 -10g
Trans fat	0
Cholesterol	0
Sodium	< 450mg
Dietary fiber	6 - 8g
Moisture	1 - 2%

8.2.4 Microbiological requirements

- Peanut butter should be free from Lipolytic and Oxidative organisms, *Escherichia Coli*, *Enterobacteriaceae,* Yeasts and Moulds.
- The total aflatoxin in peanut butter should be less than 10 μg/kg and the B1 Aflatoxin not more than 5 μg/kg.

8.2.5 Sensory properties

The peanut butter should:

- Should have a good flavour and aroma,
- Be free from foreign, bitter, rancid or objectionable taste and odour,
- Be free from black specks and seed coats,
- Oil should not separate from peanut butter.

8.2.6 Packaging and labelling

- The peanut butter should be filled directly into plastic tubs and hermetically sealed; package should be capable of protecting the contents against contamination and deterioration under normal conditions of storage and transportation.
- Should be labelled according to the Labelling Regulations relating to spreads.

8.2.7 Storage and Shelf life

- The product should be stored at room temperature
- Should have a shelf life of six (6) months