



SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Food Manufacturing

Registered by Organising Field 06, Manufacturing, Engineering and Technology, publishes the following qualification and unit standards for public comment.

This notice contains the titles, fields, sub-fields, **NQF** levels, credits, and purpose of the qualification and unit standards. The qualification and unit standards can be accessed via the **SAQA** web-site at www.saga.org.za. Copies may **also** be obtained from the Directorate of Standards Setting and Development at the **SAQA** offices, Hatfield Forum West, **1067** Arcadia Street, Hatfield, Pretoria.

Comment on the qualification and unit standards should reach **SAQA** at the address **below and no later than 76 March 2006**. All correspondence should be marked Standards Setting – **SGB** for Food Manufacturing and addressed to

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DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Food Laboratory Analysis

SAQA QUAL ID		QUALIFICATION TITLE	
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food Manufacturing		6	
TYPE		ORGANISING FIELD DESCRIPTION	SPECIALISATION
National Certificate		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	130	Level 3	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose

The purpose of this qualification is to ensure that the person who performs analytical tests and procedures in a food laboratory will be able to perform generic functions in any food laboratory, such as preparation of glassware and media. The person will also be able to perform basic analytical tests and specialised laboratory techniques and procedures on a range of food products within the specialisation area(s) of his/her choice.

These specialisation areas include:

- > Dairy product analysis.
- > Meat and fish product analysis.
- > Confectionery product analysis.
- > Beverage product analysis.
- > Oil- and fat-based product analysis.
- > Fruit and vegetable product analysis.
- > Carbohydrate- and cereal-based product analysis.
- > Spices, condiments and culinary product analysis.

The person will be able to apply all relevant personal safety and food safety practices during the performance of his/her tasks. In addition, the learner will be able to take part in quality control practices within the food laboratory environment and will thereby contribute to the overall quality assurance procedures, food safety management system and quality management system within his/her work environment.

Portability is enhanced in this qualification by the different specialisation options offered, i.e. after completion of the qualification, a person will be competent in one area of specialisation but one specialisation area will allow for portability to seven other specialisations.

This qualification will allow a person to have access to education, training and career paths within the food industry, ensuring learning mobility and progression on the framework through articulation with other qualifications. This qualification will enhance the social, economic and personal development of the learner, as well as the sustainability and productivity of the food industry. The qualification will accelerate the redress of past unfair discrimination in education, training and employment opportunities.

Rationale

This qualification reflects the workplace-based needs of the food industry that are expressed by employers and employees, both now and for the future. Typical learners would be persons who are currently working in a food laboratory environment who have not received any formal recognition for their skills and knowledge, as well as workers that are progressing from other areas within the food environment to a food laboratory environment. Learners may also include new entrants to the food laboratory environment.

This qualification aims at providing access to a qualification in laboratory analysis for anyone in the food and beverage industry who wants to obtain skills in laboratory analysis or who wants to have their current skills in laboratory analysis recognised. In this way, value is added to workers' employability and competence and the sustainability of the food industry is improved, thereby assisting in social and economic transformation. This qualification gives the learner the skills and knowledge to be employed within the food industry.

The range of electives **will allow** the individual to pursue a career in quality control and assurance within the food and beverage analytical, microbiological and biochemical laboratory environment, leading to articulation within the laboratory supervision environment. The conformance of food products to legal and company standards and specifications for food composition and food safety is an important industry goal, therefore skilled workers in the laboratory and quality control/assurance environments play a key role. The implementation of effective food safety management systems to protect the consumer's health strongly relies on skilled laboratory and quality assurance staff.

RECOGNIZE PREVIOUS LEARNING?

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LEARNING ASSUMED TO BE IN PLACE

It is assumed learners are already competent in:

- > Communication at NQF Level 2.
- > Mathematical Literacy at NQF Level 2.
- > Natural Science and Technology principles at NQF Level 2.
- > Application of personal safety practices in a food laboratory.
- > Application of hygiene and health practices.
- > Temperature measurement.
- > Representative sampling.

Recognition of prior learning

This qualification may be achieved in part or completely through RPL, which includes formal, informal and non-formal learning and work experience.

Access to the qualification

Access to this qualification is open bearing in mind learning assumed to **be** in place.

QUALIFICATION RULES

The Fundamental component of the qualification consisting of 20 credits for Communication and 16 credits for Mathematical Literacy is compulsory for all learners.

The Core component of the qualification consisting of three unit standards, reflecting the core skills and competencies of product analysis within the broad food and beverages industry totaling 16 credits is compulsory.

In the Elective component, the learner must choose at least one group (**A-H**), depending on his/her relevant sub-field.

The learner must, apart from the compulsory unit standards in the elective groups, choose additional unit standards from the Electives to make up the remainder of the 130 (minimum) credits for the qualification.

Example: If the learner chooses the dairy product analysis group (group **A**), he/she must obtain:

- > 36 credits from the Fundamental component.
- > 16 credits from the Core component.
- > 49 credits from the compulsory electives for the group.
- > A minimum number of credits (i.e. 29 credits) from Elective group **A.2** to make up a minimum of 130

credits for the total qualification.

The same rules of combination apply to groups B-H

A learner will be allowed to complete more than one specialisation group, as long as the rules of combination are followed. This will further support the principle of horizontal progression and articulation.

The Elective component of the qualification consists of different groups (A-H), reflecting the different sub-fields of product analyses within the food and beverages industry. Within the groups there may be compulsory and choice electives. The unit standards in each group (A-H) are related to the specific sub-field and will enable the learner to pursue a learning path with further specialisation within his/her relevant sub-field and with interests of his/her own. These groups are:

- Group A: Dairy product analysis.
- Group B: Meat and fish product analysis.
- Group C: Confectionery product analysis.
- Group D: Beverage product analysis.
- Group E: Oil- and fat-based product analysis.
- Group F: Fruit and vegetable product analysis.
- Group G: Carbohydrate- and cereal-based product analysis.
- Group H: Spices, condiments and culinary product analysis.

A.1 Dairy Product Analysis - compulsory unit standards

Choose all of the following unit standards:

- > Evaluate the quality of milk in terms of its protein stability, as indicated by the alizarol test, NLRD: 120418, L: 2, Cr: 3
- > Evaluate the quality of raw milk in terms of its antibiotics content, NLRD: 120407, L: 2, Cr: 5
- > Demonstrate an understanding of the nature of milk and its transformation into commercial dairy products, NLRD: 120245, L: 3, Cr: 6
- > Evaluate the quality of a food product in terms of its titratable acidity, NLRD: 120397, L: 2, Cr: 4
- > Evaluate the quality of a food product in terms of its pH, NLRD: 123273, L: 3, Cr: 4
- > Evaluate the quality of a dairy product in terms of its fat content, as determined by the Gerber or Babcock fat determination method, NLRD: 120241, L: 3, Cr: 5
- > Evaluate the sensory quality of pasteurised milk, cream or fruit-milk mixtures, NLRD: 120240, L: 3, Cr: 5
- > Evaluate the efficiency of milk or cream pasteurisation, as indicated by the phosphatase test, NLRD: 120243, L: 3, Cr: 5
- > Evaluate the microbiological quality of food products by means of pour plate methods, NLRD: 123299, L: 3, Cr: 12
- > Total credits: 49

A.2 Dairy Product Analysis - choice unit standards

From the following, choose a combination of unit standards to make up 29 credits (minimum) □

- > Evaluate the quality of a dairy powder in terms of its solubility, NLRD: 123278, L: 2, Cr: 3
- > Evaluate the quality of a dairy powder in terms of the amount of scorched particles, NLRD: 123279, L: 2, Cr: 3
- > Evaluate the quality of milk in terms of its freezing point, NLRD: 120408, L: 3, Cr: 4
- > Evaluate the quality of raw milk in terms of its microbial load, as indicated by the resazurin test, NLRD: 120395, L: 3, Cr: 5
- > Evaluate the quality of a fruit juice, fruit juice concentrate or fruit-milk mixture, as indicated by its Brix-acid ratio, NLRD: 120244, L: 3, Cr: 3
- > Evaluate the quality of a food product in terms of its Brix-value, NLRD: 123294, L: 3, Cr: 3
- > Evaluate the efficiency of homogenisation of a liquid dairy product, NLRD: 120236, L: 3, Cr: 4
- > Evaluate the quality of a food product in terms of its fat content as determined by an ether extraction method, NLRD: 123284, L: 3, Cr: 5
- > Evaluate the quality of a dairy powder in terms of its moisture content, as indicated by the Toluene Distillation Method, NLRD: 123275, L: 3, Cr: 5
- > Evaluate the quality of instant milk powder in terms of its dispersibility, NLRD: 123291, L: 3, Cr: 3
- > Evaluate the quality of a dairy powder in terms of its bulk density, NLRD: 123292, L: 3, Cr: 3
- > Evaluate the fat-, salt-, moisture- and solids-non-fat content of butter as indicated by the Kohman test,

NLRD: 123276, L: 3, Cr: 5

> Evaluate the quality of a food product in terms of its total solids content using an oven drying method,

NLRD: 123277, L: 3, Cr: 4

> Evaluate the activity of a starter culture in terms of its pH or % titratable acidity, NLRD: 123274, L: 3, Cr: 2

> Evaluate the quality of a food product in terms of its viscosity, NLRD: 123280, L: 3, Cr: 4

> Evaluate the composition of raw milk as determined by an infra-red analyser, NLRD: 120237, L: 3, Cr: 6

> Evaluate the quality of cheese in terms of its salt content, NLRD: 123282, L: 3, Cr: 5

> Evaluate the extent of saturation of butterfat (in cream or butter) as indicated by its iodine value, NLRD: 123285, L: 4, Cr: 4

> Evaluate the sensory quality of butter, NLRD: 123283, L: 4, Cr: 6

> Evaluate the sensory quality of cheese, NLRD: 123287, L: 4, Cr: 8

> Evaluate the sensory quality of dried dairy products, NLRD: 123288, L: 4, Cr: 5

> Evaluate the sensory quality of frozen dairy ice cream or ice cream related products, NLRD: 123290, L: 4, Cr: 5

> Evaluate the sensory quality of fermented dairy products, NLRD: 123305, L: 4, Cr: 6

> Evaluate the sensory quality of cottage cheese products, NLRD: 123286, L: 4, Cr: 5

> Evaluate the sensory quality of liquid long life dairy products, NLRD: 123289, L: 4, Cr: 5

> Evaluate the sensory quality of condensed milk products, NLRD: 123296, L: 4, Cr: 5

> Evaluate the sensory quality of process cheese, NLRD: Revised 123300, L: 4, Cr: 5

> Evaluate the microbiological quality of a food product, as indicated by the presence of the pathogens *Staphylococcus aureus* (*S. aureus*) and *Salmonella*, NLRD: Revised 123281, L: 4, Cr: 6

> Evaluate the quality of milk in terms of its solids-non-fat content, NLRD: 120400, L: 3, Cr: 4

> Monitor and control quality assurance procedures in a food or sensitive consumer product environment, NLRD: 119796, L: 4, Cr: 8

> Monitor critical control points (CCP's) as an integral part of a hazard analysis critical control point (HACCP) system, NLRD: 120239, L: 3, Cr: 6

> Total available credits: 148

B.1 Meat and Fish Product Analysis - compulsory unit standards

The following unit standard is compulsory for this specialisation

> Demonstrate knowledge of the nature and composition of food, NLRD: 12766, L: 3, Cr: 6

> Total credits: 6

B.2 Meat and Fish Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain 130 credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

C.1 Confectionery Product Analysis - compulsory unit standard

> Demonstrate knowledge of the nature and composition of food, NLRD: 12766, L: 3, Cr: 6

> Total credits: 6

C.2 Confectionery Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain 130 credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

D.1 Beverage Product Analysis - compulsory unit standard

The following unit standard is compulsory for this specialisation

> Demonstrate knowledge of the nature and composition of food, NLRD: 12766, L: 3, Cr: 6

> Total credits: 6

D.2 Beverage Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain **130** credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

E.1 Oil- and Fat-based Product Analysis - compulsory unit standard

The following unit standard is compulsory

> Demonstrate knowledge of the nature and composition of food, NLRD: **12766**, L: 3, Cr: 6

> Total credits: 6

E.2 Oil- and Fat-based Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain **130** credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

F.1 Fruit and Vegetable Product Analysis - compulsory unit standard

The following unit standard is compulsory

> Demonstrate knowledge of the nature and composition of food, NLRD: **12766**, L: 3, Cr: 6

> Total credits: 6

F.2 Fruit and Vegetable Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain **130** credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

G.1 Carbohydrate- and Cereal-based Product Analysis - compulsory unit standard

The following unit standard is compulsory

> Demonstrate knowledge of the nature and composition of food, NLRD: **12766**, L: 3, Cr: 6

> Total credits: 6

G.2 Carbohydrate- and Cereal-based Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain 130 credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

H.1 Spices, Condiments and Culinary Product Analysis - compulsory unit standard

The following unit standard is compulsory for this specialisation

> Demonstrate knowledge of the nature and composition of food, NLRD: **12766**, L: 3, Cr: 6

> Total credits: 6

H.2 Spices, Condiments and Culinary Product Analysis - choice unit standards

A learner must choose from additional electives a combination of unit standards to make up the remainder of the credits to attain **130** credits required for the qualification. The Choice of unit standards must be suitable to the purpose of the qualification and related to the specialised sub-field: Meat and Fish Product Analysis.

EXIT LEVEL OUTCOMES

Qualifying learners can:

1. Perform generic functions and food product analysis in the laboratory.
2. Perform specialised food product analysis in the laboratory.
3. Contribute to quality practices during food product analysis.

Critical cross-field outcomes⁰

While performing laboratory functions, qualifying learners can:□

- > Identify and solve problems in which response displays that responsible decisions, using critical and creative thinking, have been made by:
 - > Problem solving during laboratory analysis and quality assurance, Evident in exit level outcome: 1, 2, 3.
- > Work effectively with others as a member of a team, group, organisation or community by:
 - > Applying team-work during laboratory analysis, Evident in exit level outcome: 1, 2.
 - > Co-ordinating one's work with that of others in the direct surrounding area, Evident in exit level outcome: 1, 2.
- > Organise and manage oneself and one's activities responsibly and effectively by:
 - > Planning one's activities, Evident in exit level outcome: 1, 2,3.
- > Collect, analyse, organise and critically evaluate information by:
 - > Keeping records of laboratory analysis and quality assurance, Evident in exit level outcome: 1, 2,3.
 - > Analysing samples and evaluating the results, Evident in exit level outcome: 1, 2.
- > Communicate effectively by using mathematical and/or language skills in the modes of oral and/or written presentations by:
 - > Keeping records and noting results, Evident in exit level outcome: 1, 2,3.
- > Use science and technology effectively and critically, showing responsibility towards the environment and health of others by:
 - > Working according to health and safety regulations, Evident in exit level outcome: 1, 2.
- > Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation by:
 - > Problem solving during laboratory analysis and quality assurance, Evident in exit level outcome: 1, 2,3.
- > Contribute to the full personal development of each learner and the social and economic development of the society at large by:
 - > Performing core and specialised laboratory functions, Evident in exit level outcome: 1, 2
 - > Performing quality assurance procedures, Evident in exit level outcome: 3.

ASSOCIATED ASSESSMENT CRITERIA

1.

- > Glassware and media are prepared according to standard operating procedures.
- > Generic food product analysis is performed according to standard operating procedures.

Range:

- > Dairy product analysis (pH, alizarol, antibiotics, titratable acidity, Gerber/Babcock fat, freezing point, solids-non-fat, pour plate methods, resazurin, infrared analysis).
- > Meat and fish product analysis (**SMEs** input needed).
- > Confectionery product analysis (SME input needed).
- > Beverage product analysis (**SMEs** input needed).
- > Oil- and fat-based product analysis (SMEs input needed).
- > Fruit and vegetable product analysis (SMEs input needed).
- > Carbohydrate- and cereal-based product analysis (**SMEs** input needed).
- > Spices, condiments and culinary product analysis (**SMEs** input needed).

2.

- > Specialised food product analyses are performed according to standard operating procedures for one of the following products:
 - > Dairy products (Ripened cheese, cottage cheese, processed cheese, fermented dairy products, dried dairy products, liquid long life dairy products, condensed milk products, butter and butter related spreads or frozen ice cream and frozen ice cream related products).
 - > Meat and fish products (**SMEs** input needed).
 - > Confectionery products (SME input needed).
 - > Beverage products (SMEs input needed).
 - > Oil- and fat-based products (SMEs input needed).
 - > Fruit and vegetable products (SMEs input needed).
 - > Carbohydrate- and cereal-based products (**SMEs** input needed).
 - > Spices, condiments and culinary product analysis (SMEs input needed).

3.

- > Knowledge and comprehension of the concept of microbiology and the effect of micro-organisms on personal health, hygiene and food safety are applied according to standard food microbiology principles.
- > Quality control practices are performed during food product analysis according to standard operating procedures.
- > Quality assurance procedures are adhered to through performing quality control practices according to standard operating procedures.

Integrated assessment

The applied competence (practical, foundational and reflexive competencies) of this qualification will be achieved if a learner is able to perform generic and specialised laboratory techniques on a range of food products.

The identifying and solving of problems, team work, organising one-self, the using of applied science, the implication of actions and reactions in the world as a set of related systems must be assessed during any combination of practical, foundational and reflexive competencies demonstrated. Assessment methods and tools must be designed to determine the whole person development and integration of applied knowledge and skills.

Applicable assessment tool(s) must be used to establish the foundational, reflexive and embedded knowledge applied to solve problems.

A detailed portfolio of evidence is required to prove the practical, applied and foundational competencies of the learner.

Assessors should develop and conduct their own integrated assessment by making use of a range of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Unit standards in the qualification must be used to assess specific and critical cross-field outcomes.

INTERNATIONAL COMPARABILITY

Food manufacturing working group have chosen the NZQA from New Zealand, NVQ from England, Wales and Northern Ireland, AQF from Australia and the SVQ from Scotland for International benchmarking because these countries are considered to be on the cutting edge in food laboratory analysis and technology and have a similar profile to the South African food beverage manufacturing industry.

On the NZQA from New Zealand, one qualification exists for Laboratory Technology, although at Level 4 and specifically for the Dairy Manufacturing Industry, namely:

- > National Certificate in Dairy Manufacturing (Laboratory Technology).

The Level 4 National Certificate in Dairy Manufacturing (Laboratory Technology) from the NZQA contains a total of 40 credits. It is aimed at experienced laboratory staff from the dairy industry and provides the next step in the training and development path following the National Certificate in Dairy Manufacturing (Level 3) with optional strands in people skills and computing skills. The compulsory section focuses on applied dairy

industry skills and knowledge required by staff in both microbiology and chemistry laboratories. The elective section is flexible and allows candidates to select the most appropriate outcomes for their specialisation.

Compulsory generic standards cover the following competencies:

- > Quality assurance and accreditation principles.
- > Requirements of food safety programmes and their application.

Elective standards cover the following competencies:

- > Evaluation of sampling methods.
- > Interpretation of test results.
- > Sensory evaluation.
- > Applying the principles of rationalised testing.
- > Waste water measurement and yield monitoring.
- > Performing advanced biochemical and microbiological tests.
- > Milk reference testing.
- > Advanced chemical principles.
- > Rapid analytical methods for chemical analysis.
- > Chromatography and HPLC techniques.
- > Pathogen management.
- > Personnel management.

Product specialisation in the New Zealand qualification is not allowed, i.e. the qualification has a dairy focus only. The competencies with regard to laboratory techniques in the New Zealand qualification are also of a more advanced nature than those reflected in the South African qualification. However, it reflects the typical competencies that will be addressed in a Level 4 South African qualification and correlate well with SAQA level descriptors.

The British City & Guilds National Vocational Qualification in Food and Drink Manufacturing Operations at Level 3 has a strong focus on supervisory, team leader and technical skills.

The AQF from Australia contains a qualification (Certificate 111) in Food Processing, which consist of core, multi-sector specialist and sector specialist units. The qualification has a strong food safety focus. The following multi-sector specialist and specialist units in the qualification are applicable to food laboratory analysis:

- > Performing basic tests.
- > Analysing laboratory data.
- > Performing basic analytical tests.
- > Performing basic microbiological tests.
- > Performing basic packaging tests and inspections.
- > Using computer technology for laboratory applications.
- > Using basic laboratory equipment.
- > Preparing laboratory solutions and stains.
- > Maintaining an aseptic environment.
- > Performing non-routine or specialised tests.
- > Preparing and pouring culture media.
- > Performing packaging quality control procedures.
- > Preparing product samples.
- > Recording laboratory data.
- > Standardising laboratory solutions.
- > Performing routine troubleshooting procedures.

Although the product specialisation of the South African qualification is not evident in the Australian qualification, the level of competencies compare well between the two qualifications.

The SVQ from Scotland contains a qualification in **Food** and Drink Manufacturing Operations at Level 3. It consists of mandatory and optional units outlined below:

Mandatory units:

- > Controlling and maintaining quality.
- > Problem solving.

- > Maintaining and improving health, hygiene and safety.
- > Achieving organisational and personal goals.
- > Distribution of information.

Optional units:

- > Starting up and shutting down manufacturing operations.
- > Maintaining plant and equipment.
- > Contributing to auditing.
- > Training and development.
- > Handling and storage of materials.
- > Commissioning of plant equipment and process.
- > Effective use of resources.
- > People and human resource skills.
- > Implementing quality assurance systems.
- > Product development.
- > Improvement in operations.
- > Improvement in environmental practices.

Clearly the Scottish qualification has a major different focus than this South African qualification. The strong management focus in the Scottish qualification is reflected in the Level 5 South African qualification in First Line Manufacturing Management.

In conclusion, it can be **stated** that in terms of the qualifications analysed in this study, this qualification is justified as it contains similar essential core competencies **to** those offered internationally.

ARTICULATION OPTIONS

This qualification articulates vertically with

- > 50306: The Further Education and Training Certificate in Dairy Manufacturing Technology NQF4 with the following specialisations:
 - > Ripened cheese.
 - > Cottage cheese.
 - > Processed cheese.
 - > Fermented dairy products.
 - > Dried dairy products.
 - > Liquid long life dairy products.
 - > Sweetened condensed milk.
 - > Butter and butter related spreads.
 - > Frozen ice cream and frozen ice cream related products.
- > 20206: Further Education and Training Certificate in Food and Beverage Manufacturing Technology: Spray Dried Food Products Technologist NQF 4.

Horizontal articulation exists with the following qualifications:

- > National Certificate in Dairy Primary Processing NQF3, **ID:** 50024.
- > National Certificate in Food and Beverage Processing: Brewing Processing NQF 3, ID: 20505.
- > National Certificate in Food and Beverage Processing: Malting Processing NQF 3, ID: 20506.
- > National Certificate in Food and Beverage Processing: **Soft** Drinks Processing NQF 3, ID: 20508.
- > National Certificate in Food and Beverage Processing: Spirits Processing NQF 3, ID: 20509.
- > National certificate in Food and Beverage Processing: Wine Processing NQF 3, ID: 20510.
- > National Certificate in Food and Beverage Processing: Cereals, Snacks, Pasta, Spices, Condiments and Culinary Processing NQF 3, ID: 20197.
- > National Certificate in Food and Beverage Processing: Confectionery Processing NQF 3, ID: 20199.
- > National Certificate in Food and Beverage Processing: Oil- and Fat-based Products NQF 3, ID: 20198.
- > National Certificate in Food and Beverage Processing: Fish and Seafood Processing NQF 3, ID: 20194.
- > National Certificate in Food and Beverage Processing: Fruit and Vegetable Processing NQF 3, ID: **20504.**
- > National Certificate in Food and Beverage Processing: Meat Processing NQF 3, **ID:**20196.
- > National Certificate in Food and Beverage Processing: Oil Refining NQF 3, ID: 20195.
- > National Certificate in Food and Beverage Processing: Oil Milling NQF 3. ID: 20200.

MODERATION OPTIONS

- > **Anyone** assessing a learner or moderating the assessment of a learner against this qualification must be

registered as an assessor and moderator respectively with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Any institution offering learning that will enable the achievement of this qualification must be accredited as a provider with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA, or by another ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards, exit level outcomes and the integrated competence described in the qualification.

> Anyone wishing to be assessed against this qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

For an applicant to register as an assessor, the following are essential:

> Anyone assessing a learner against this qualification must be registered as an assessor with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.

> The applicant needs well-developed interpersonal skills, as well as subject matter and assessment experience.

> The applicant should have a similar qualification than this one at NQF Level 4 or higher, with a minimum of 12 months field experience after he/she has completed the qualification.

NOTES

N/A

UNIT STANDARDS

(Note: A blank space after this line means that the qualification is not based on Unit Standards.)

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	123272 Perform quality control practices in a food or sensitive consumer product operation	Level 2	4	Draft - Prep for Comment
Core	119802 Perform quality control practices in a food or sensitive consumer product operation	Level 3	6	Recommended
core	120235 Demonstrate an understanding of the concept of microbiology in a food handling environment	Level 3	6	Registered
Elective	120397 Evaluate the quality of a food product in terms of its titratable acidity	Level 2	4	Recommended
Elective	120407 Evaluate the quality of raw milk in terms of its antibiotics content	Level 2	5	Recommended
Elective	120418 Evaluate the quality of milk in terms of its protein stability, as indicated by the alizarol test	Level 2	3	Recommended
Elective	123278 Evaluate the quality of a dairy powder in terms of its solubility	Level 2	3	Draft - Prep for Comment
Elective	123279 Evaluate the quality of a dairy powder in terms of the amount of scorched particles	Level 2	3	Draft - Prep for Comment
Elective	12766 Demonstrate knowledge of the nature and composition of food	Level 3	6	Reregistered
Elective	120236 Evaluate the efficiency of homogenisation of a liquid dairy product	Level 3	4	Registered
Elective	120237 Evaluate the composition of raw milk as determined by an infra red analyser	Level 3	6	Registered
Elective	120239 Monitor critical control points (CCPs) as an integral part of a hazard analysis critical control point (HACCP) system	Level 3	6	Registered
Elective	120240 Evaluate the sensory quality of pasteurised milk, cream or fruit milk mixtures	Level 3	5	Registered
Elective	120241 Evaluate the quality of a dairy product in terms of its fat content, as determined by the Gerber or Babcock fat determination method	Level 3	5	Registered
Elective	120243 Evaluate the efficiency of milk or cream pasteurisation as indicated by the phosphatase test	Level 3	5	Registered
Elective	120244 Evaluate the quality of a fruit juice, fruit juice concentrate or fruit milk mixture as indicated by its Brix-acid ratio	Level 3	3	Registered

Elective	120245 Demonstrate an understanding of the nature of milk and its transformation into commercial dairy products	Level 3	6	Registered
Elective	120395 Evaluate the quality of raw milk in terms of its microbial load, as indicated by the resazurin test	Level 3	5	Recommended
Elective	120400 Evaluate the quality of milk in terms of its solids-non-fat content	Level 3	4	Recommended
Elective	120408 Evaluate the quality of milk in terms of its freezing point	Level 3	4	Recommended
Elective	123273 Evaluate the quality of a food product in terms of its pH	Level 3	4	Inactive
Elective	123274 Evaluate the activity of a starter culture in terms of its pH or % titratable acidity	Level 3	2	Draft - Prep for P Comment
Elective	123275 Evaluate the quality of a dairy powder in terms of its moisture content as indicated by the Toluene distillation method	Level 3	5	Draft - Prep for P Comment
Elective	123276 Evaluate the fat-, salt-, moisture- and solids-non-fat content of butter as indicated by the Kohman test	Level 3	5	Draft - Prep for P Comment
Elective	123277 Evaluate the quality of a food product in terms of its total solids content using an oven drying method	Level 3	4	Draft - Prep for P Comment
Elective	123280 Evaluate the quality of a food product in terms of its viscosity	Level 3	4	Draft - Prep for P Comment
Elective	123282 Evaluate the quality of cheese in terms of its salt content	Level 3	5	Draft - Prep for P Comment
Elective	123284 Evaluate the quality of a food product in terms of its fat content as determined by an ether extraction method	Level 3	5	Draft - Prep for P Comment
Elective	123291 Evaluate the quality of instant milk powder in terms of its dispersibility	Level 3	3	Draft - Prep for P Comment
Elective	123292 Evaluate the quality of a dairy powder in terms of its bulk density	Level 3	3	Draft - Prep for P Comment
Elective	123294 Evaluate the quality of a food product in terms of its Brix-value	Level 3	3	Draft - Prep for P Comment
Elective	123299 Evaluate the microbiological quality of food products by means of pour plate methods	Level 3	12	Draft - Prep for P Comment
Elective	119796 Monitor and control quality assurance procedures in a food or sensitive consumer product environment	Level 4	8	Recommended
Elective	123281 Evaluate the microbiological quality of a food product as indicated by the presence of the pathogens <i>Staphylococcus aureus</i> (<i>S. aureus</i>) and <i>Salmonella</i>	Level 4	6	Draft - Prep for P Comment
Elective	123283 Evaluate the sensory quality of butter	Level 4	6	Draft - Prep for P Comment
Elective	123285 Evaluate the extent of saturation of butterfat (in cream or butter), as indicated by its iodine value	Level 4	4	Draft - Prep for P Comment
Elective	123286 Evaluate the sensory quality of cottage cheese	Level 4	5	Draft - Prep for P Comment
Elective	123287 Evaluate the sensory quality of cheese	Level 4	8	Draft - Prep for P Comment
Elective	123288 Evaluate the sensory quality of dried dairy products	Level 4	5	Draft - Prep for P Comment
Elective	123289 Evaluate the sensory quality of liquid long life dairy products	Level 4	5	Draft - Prep for P Comment
Elective	123290 Evaluate the sensory quality of frozen dairy ice cream or ice cream related products	Level 4	5	Draft - Prep for P Comment
Elective	123296 Evaluate the sensory quality of condensed milk products	Level 4	5	Draft - Prep for P Comment
Elective	123300 Evaluate the sensory quality of processed cheese	Level 4	5	Draft - Prep for P Comment
Elective	123305 Evaluate the sensory quality of fermented dairy products	Level 4	6	Draft - Prep for P Comment
Fundamental	7456 Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5	Reregistered
Fundamental	9010 Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2	Reregistered
Fundamental	9012 Investigate life and work related problems using data and probabilities	Level 3	5	Reregistered
(Fundamental	9013 Describe, apply, analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	Level 3	4	Reregistered
Fundamental	119457 and use information from texts	Level 3	5	Recommended
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Recommended
Fundamental	119467 Understand communication in occupational learning programmes	Level 3	5	Recommended
Fundamental	119472 Accommodate the needs and context of learners in oral/signaled communication	Level 3	5	Recommended



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Prepare glassware and media for analytical procedures in a laboratory

SAQA US ID	UNIT STANDARD TITLE		
123272	Prepare glassware and media for analytical procedures in a laboratory		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 2	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of glassware and media preparation.

SPECIFIC OUTCOME 2

Prepare glassware and media for analytical procedures.

SPECIFIC OUTCOME 3

Perform procedures at the end of preparing glassware and media.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Evaluate the activity of a starter culture in terms of its pH or % titratable acidity

SAQA US ID	UNIT STANDARD TITLE		
123274	Evaluate the activity of a starter culture in terms of its pH or % titratable acidity		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	2	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining starter culture activity.

SPECIFIC OUTCOME 2

Prepare for determining the activity of a starter culture.

SPECIFIC OUTCOME 3

Determine the activity of a starter culture.

SPECIFIC OUTCOME 4

Report on the activity of a starter culture in terms of its pH or % titratable acidity.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

SAQA US ID	UNIT STANDARD TITLE		
123275	Evaluate the quality of a dairy powder in terms of its moisture content, as indicated by the Toluene distillation method		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the moisture content of a dairy powder by means of toluene distillation.

SPECIFIC OUTCOME 2

Prepare for toluene distillation on a dairy powder.

SPECIFIC OUTCOME 3

Determine the moisture content of a dairy powder by means of toluene distillation.

SPECIFIC OUTCOME 4

Report on the quality of a dairy powder in terms of its moisture content.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

SAQA US ID	UNIT STANDARD TITLE		
123276	Evaluate the fat-, salt-, moisture- and solids-non-fat-content of butter as indicated by the Kohman test		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food Manufacturing		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of performing the Kohman test on butter.

SPECIFIC OUTCOME 2

Prepare for the Kohman test on butter.

SPECIFIC OUTCOME 3

Determine the fat-, salt-, moisture- and solids-non-fat content of butter by means of the Kohman test.

SPECIFIC OUTCOME 4

Report on the quality of butter in terms of the results of the Kohman test.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Evaluate the quality of a food product in terms of its total solids content using an oven drying method

SAQA US ID	UNIT STANDARD TITLE		
123277	Evaluate the quality of a food product in terms of its total solids content using an oven drying method		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the total solids content of a food product.

SPECIFIC OUTCOME 2

Prepare for determining the total solids content of a food product.

SPECIFIC OUTCOME 3

Determine the total solids content of a food product by means of oven drying.

SPECIFIC OUTCOME 4

Report on the quality of a food product in terms of its total solids content.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Evaluate the quality of a dairy powder in terms of its solubility

SAQA US ID	UNIT STANDARD TITLE		
123278	Evaluate the quality of a dairy powder in terms of its solubility		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 2	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the solubility index of a dairy powder.

SPECIFIC OUTCOME 2

Prepare for determining the solubility index of a dairy powder.

SPECIFIC OUTCOME 3

Determine the solubility index of a dairy powder.

SPECIFIC OUTCOME 4

Report on the quality of a dairy powder in terms of its solubility.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

SAQA US ID	UNIT STANDARD TITLE		
123279	Evaluate the quality of a dairy powder in terms of the amount of scorched particles		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3		

SPECIFIC OUTCOME 1

Demonstrate an understanding of the scorched particle test on a dairy powder.

SPECIFIC OUTCOME 2

Prepare for the scorched particle test on a dairy powder.

SPECIFIC OUTCOME 3

Perform the scorched particle test on a dairy powder.

SPECIFIC OUTCOME 4

Report on the quality of a dairy powder in terms of the amount of scorched particles.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Evaluate the quality of a food product in terms of its viscosity

SAQA US ID	UNIT STANDARD TITLE		
123280	Evaluate the quality of a food product in terms of its viscosity		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the viscosity of food products.

SPECIFIC OUTCOME 2

Prepare for the determination of the viscosity of a food product.

SPECIFIC OUTCOME 3

Determine the viscosity of a food product.

SPECIFIC OUTCOME 4

Report on the quality of a food product in terms of its viscosity.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

SAQA US ID	UNIT STANDARD TITLE		
123281	Evaluate the microbiological quality of a food product as indicated by the presence of the pathogens <i>Staphylococcus aureus</i> (<i>S. aureus</i>) and <i>Salmonella</i>		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the *S. aureus* and *Salmonella* tests on food products.

SPECIFIC OUTCOME 2

Prepare for the *S. aureus* and *Salmonella* tests on a food product.

SPECIFIC OUTCOME 3

Perform the *S. aureus* and *Salmonella* tests on a food product.

SPECIFIC OUTCOME 4

Report on the microbiological quality of a food product in terms of the results of the *S. aureus* and *Salmonella* tests.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

SAQA US ID	UNIT STANDARD TITLE		
123282	Evaluate the quality of cheese in terms of its salt content		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD N P E	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the salt content of cheese.

SPECIFIC OUTCOME 2

Prepare for the determination of the salt content of cheese.

SPECIFIC OUTCOME 3

Determine the salt content of cheese.

SPECIFIC OUTCOME 4

Report on the salt content of cheese.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Evaluate the sensory quality of butter

SAQA US ID	UNIT STANDARD TITLE		
123283	Evaluate the sensory quality of butter		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 4	Regular

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of butter.

SPECIFIC OUTCOME 3

Determine the sensory quality of butter.

SPECIFIC OUTCOME 4

Report on the sensory quality of butter.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

Evaluate the quality of a food product in terms of its fat content as determined by an ether extraction method

SAQA US ID	UNIT STANDARD TITLE
123284	(Evaluate the quality of a food product in terms of its fat content as determined by an ether

SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the fat content of food products by means of an ether extraction method.

SPECIFIC OUTCOME 2

Prepare for an ether extraction method on a food product.

SPECIFIC OUTCOME 3

Determine the fat content of a food product with an ether extraction method.

SPECIFIC OUTCOME 4

Report on the quality of a food product in terms of its fat content.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

13

SAQA US ID	UNIT STANDARD TITLE		
123285	Evaluate the extent of saturation of butterfat (in cream or butter), as indicated by its iodine value		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food Manufacturing		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the iodine value of butterfat.

SPECIFIC OUTCOME 2

Prepare for determining the iodine value of butterfat.

SPECIFIC OUTCOME 3

Determine the iodine value of butterfat.

SPECIFIC OUTCOME 4

Report on the extent of butterfat saturation in terms of the iodine value.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

14

Evaluate the sensory quality of cottage cheese

SAQA US ID	UNIT STANDARD TITLE		
123286	Evaluate the sensory quality of cottage cheese		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	1	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of cottage cheese.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of cottage cheese.

SPECIFIC OUTCOME 3

Determine the sensory quality of cottage cheese.

SPECIFIC OUTCOME 4

Report on the sensory quality of cottage cheese.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

15

Evaluate the sensory quality of cheese

123287	Evaluate the sensory quality of cheese		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food Manufacturing		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of cheese.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of cheese.

SPECIFIC OUTCOME 3

Determine the sensory quality of cheese.

SPECIFIC OUTCOME 4

Report on the sensory quality of cheese.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

16

Evaluate the sensory quality of dried dairy products

SAQA US ID	UNIT STANDARD TITLE		
123288	Evaluate the sensory quality of dried dairy products		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food Manufacturing		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of dried dairy products.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of dried dairy product.

SPECIFIC OUTCOME 3

Determine the sensory quality of a dried dairy product.

SPECIFIC OUTCOME 4

Report on the sensory quality of the dried dairy product.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

17

Evaluate the sensory quality of liquid long life dairy products

SAQA US ID	UNIT STANDARD TITLE		
123289	Evaluate the sensory quality of liquid long life dairy products		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of liquid long life dairy products.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of a liquid long life dairy product.

SPECIFIC OUTCOME 3

Determine the sensory quality of a liquid long life dairy product.

SPECIFIC OUTCOME 4

Report on the sensory quality of the liquid long life dairy product.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

18

Evaluate the sensory quality of frozen dairy ice cream or ice cream related products

SAQA US ID	UNIT STANDARD TITLE		
123290	Evaluate the sensory quality of frozen dairy ice cream or ice cream related products		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of frozen dairy ice cream or ice cream related products.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of a frozen dairy ice cream or ice cream related product.

SPECIFIC OUTCOME 3

Determine the sensory quality of a frozen dairy ice cream or ice cream related product.

SPECIFIC OUTCOME 4

Report on the sensory quality of the frozen dairy ice cream or ice cream related product.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

19

Evaluate the quality of instant milk powder in terms of its dispersibility

SAQA US ID	UNIT STANDARD TITLE		
123291	Evaluate the quality of instant milk powder in terms of its dispersibility		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food Manufacturing		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the dispersibility of instant milk powder.

SPECIFIC OUTCOME 2

Prepare for determining the dispersibility of instant milk powder.

SPECIFIC OUTCOME 3

Determine the dispersibility of instant milk powder.

SPECIFIC OUTCOME 4

Report on the quality of instant milk powder in terms of its dispersibility.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

20

Evaluate the quality of a dairy powder in terms of its bulk density

SAQA US ID	UNIT STANDARD TITLE		
123292	Evaluate the quality of a dairy powder in terms of its bulk density		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the bulk density of a dairy powder.

SPECIFIC OUTCOME 2

Prepare for determining the bulk density of a dairy powder.

SPECIFIC OUTCOME 3

Determine the bulk density of a dairy powder.

SPECIFIC OUTCOME 4

Report on the quality of a dairy powder in terms of its bulk density.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

21

SAQA US ID	UNIT STANDARD TITLE		
123294	Evaluate the quality of a food product in terms of its Brix-value		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of determining the % total soluble solids (Brix-value) of a food product.

SPECIFIC OUTCOME 2

Prepare for the determination of the % total soluble solids (Brix-value),

SPECIFIC OUTCOME 3

Determine the % total soluble solids (Brix-value) of a food product.

SPECIFIC OUTCOME 4

Report on the quality of a food product in terms of its % total soluble solids (Brix-value).



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

22

Evaluate the sensory quality of condensed milk products

SAQA US ID	UNIT STANDARD TITLE		
123296	Evaluate the sensory quality of condensed milk products		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of condensed milk.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of condensed milk.

SPECIFIC OUTCOME 3

Determine the sensory quality of condensed milk.

SPECIFIC OUTCOME 4

Report on the sensory quality of condensed milk.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

SAQA US ID		UNIT STANDARD TITLE		
123299		Evaluate the microbiological quality of food products by means of pour plate methods		
SGB ME		ORGANISING FIELD ID		PROVIDER NAME
SGB Food Manufacturing		6		
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION		SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology		Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL		UNIT STANDARD TYPE
Undefined	12	Level 3		Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of microbiological pour plate methods.

SPECIFIC OUTCOME 2

Prepare for pour plate methods on a food product.

SPECIFIC OUTCOME 3

Perform pour plate methods on a food product.

SPECIFIC OUTCOME 4

Report on the microbiological quality of a food product in terms of the results of the pour plate methods.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

24

SAQA US ID	UNIT STANDARD TITLE		
123300	Evaluate the sensory quality of processed cheese		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food Manufacturing	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the sensory quality of processed cheese.

SPECIFIC OUTCOME 2

Prepare for the determination of the sensory quality of processed cheese.

SPECIFIC OUTCOME 3

Determine the sensory quality of processed cheese.

SPECIFIC OUTCOME 4

Report on the sensory quality of processed cheese.