BELIZE

STANDARDS ACT
CHAPTER 295

REVISED EDITION 2003
SHOWING THE SUBSIDIARY LAWS AS AT 31ST OCTOBER, 2003

This is a revised edition of the Subsidiary Laws, prepared by the Law Revision Commissioner under the authority of the Law Revision Act, Chapter 3 of the Substantive Laws of Belize, Revised Edition 2000.

ARRANGEMENT OF SUBSIDIARY LAWS
BELIZE

STANDARDS ACT
CHAPTER 295

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CHAPTER 295

STANDARDS ACT (COMMENCEMENT) ORDER

ARRANGEMENT OF PARAGRAPHS

1. Short title.
2. Commencement Date.
CHAPTER 295

STANDARDS ACT (COMMENCEMENT) ORDER 67 of 1992. (Section 28)


[16 May, 1992.]

1. This Order may be cited as the

STANDARDS ACT (COMMENCEMENT) ORDER.

2. In exercise of the powers conferred upon me by section 28 of the Standards Act and all other powers thereunto me enabling, I, GEORGE PRICE, do hereby appoint the 16th May, 1992 as the date on which the said Act shall come into force.

DATED this 12th day of May, 1992.

(GEORGE PRICE)

Minister of Trade and Commerce,
Minister responsible for the
Bureau of Standards
CHAPTER 295

STANDARDS (PREPARATION AND DECLARATION) REGULATIONS

ARRANGEMENT OF REGULATIONS

1. Short title.
2. Interpretation.
3. Technical committees.
4. Procedure for declaration of standards.
5. Recommendation of compulsory standards to Minister.
6. Amendments and withdrawals of standards.
7. Procedure on amendments or withdrawals of standards.
8. Commencement.
CHAPTER 295

STANDARDS (PREPARATION AND DECLARATION) REGULATIONS
(Section 6, 8, 9 and 19)

[15th March, 1997.]

1. These Regulations maybe cited as the STANDARDS (PREPARATION AND DECLARATION) REGULATIONS.

2. In these Regulations, unless the context otherwise requires:-

   (a) “Act” means the Standards Act;

   (b) A word or a phrase not specifically defined in these Regulations but defined in the Act shall have the meaning assigned to it in the Act.

3. (1) In the exercise of the powers conferred upon the Bureau by section 6 of the Act, it shall be lawful for the Bureau to appoint technical committees to assist it in the preparation, formulation, adaptation or adoption of specifications intended to be declared as standards.

   (2) The technical committees referred to in sub-regulation (1) above shall include persons

      (a) with an expert knowledge of the subject, article or activity;

      (b) with experience in the activity or the manufacture
or use of the article;

(c) representative of consumers, users, branches of commerce and industry, Government Departments, and those whose interest may thereby be affected.

(3) If in any particular case it is not practical or feasible to set up a technical committee as provided in sub-regulations (1) and (2) above, the staff of the Bureau may prepare, formulate, adapt or adopt specifications intended to be declared as standards after consultations with persons:-

(a) with an expert knowledge or experience of the subject, article or activity; and

(b) representative of consumers, users, branches of commerce and industry, Government Departments, and those whose interests may thereby be affected.

4. (1) Where the Bureau proposes to recommend to the Standards Council that a specification be declared a standard, it shall publish a notice to that effect, inviting comments from the public and persons interested in or affected by the matter.

(2) The notice shall be published on two occasions in the *Gazette*, in a newspaper circulating in Belize, and in other media. The notice shall include:-

(a) the title and scope of the specification;

(b) the reference and title of any foreign or international document from which it was adopted, if applicable;
standards (c) the address where details or copies of specification may be obtained;

(d) the last date on which comments may be received;

(e) the address to which comments may be received;

(f) whether it is intended to recommend the specification as compulsory or otherwise.

(3) All comments received in response to the notice shall be considered by the technical committee or by the staff of the Bureau; as the case may be; and the specification may be modified, varied or amended accordingly.

(4) The Bureau shall prepare a report on the comments received in response to the notice and on any modifications, variations or amendments made to the specification.

(5) The Bureau shall submit to the Standards Council a copy of the specification with any variation, modification or amendments thereon, together with the report referred to in sub-regulation (4) above, if it recommends that the specification be declared a standard.

(6) If the Standards Council agree that a specification be declared a standard three copies thereof shall be signed by the Chairperson of the Council and by the Director of Standards appointed under section 4 of the Act.

5. A recommendation from the Standards Council to the Minister that a standard be declared compulsory shall include:

(a) a copy of the standard, signed by the Chairperson and the Director;

(b) a statement; signed by the Chairperson and
Standards

Director that the standard has been submitted for public comment before declaration by the Council, and indicating the reasons why the standard is recommended to be compulsory;

(c) a recommendation as to the date from which the standard shall have effect as compulsory, together with a draft Order required under section 9 (3) of the Act.

6. Where the Minister does not accept the recommendation of the Standards Council, the standard may continue to be used as a voluntary standard until amended or withdrawn.

7. The procedures of Regulations 4 and 5 shall apply to any proposals for amendments to voluntary or compulsory standards that have been declared, or for the withdrawal thereof:

Provided that correction of typographical or arithmetical errors shall not be deemed to be amendments for the purposes of this Regulation.

8. These Regulations shall come into force upon signature.

MADE by the Minister of Trade and Industry this 4th day of March, 1997.

(SALVADOR FERNANDEZ)
Minister of Trade and Industry.
CHAPTER 295

STANDARDS (ACCREDITATION OF LABORATORIES AND TESTING FACILITIES) REGULATIONS

ARRANGEMENT OF REGULATIONS

1. Short title.
2. Interpretation.
3. Establishment of committee to supervise the accreditation of laboratories.
4. Applications for accreditation by laboratories.
5. Minimum standards for accredited laboratories.
7. Accreditation without submitting an application.
8. Inspection of accredited laboratories by Committee.
9. Notice of designation or revocation.
10. Laboratories operated by the Bureau.
11. Publication of list of accredited laboratories, etc..
12. Advertisement by accredited laboratories.
13. Offences and penalty.

SCHEDULE
CHAPTER 295

STANDARDS (ACCREDITATION OF LABORATORIES AND TESTING FACILITIES) REGULATIONS
(Sections 6, 14 and 17)

[10th May, 1997.]

1. These Regulations may be cited as the

STANDARDS (ACCREDITATION OF LABORATORIES AND TESTING FACILITIES) REGULATIONS.

2. (1) In these Regulations, unless the context otherwise requires:

   “Act” means the Standards Act;

   “accredited laboratory” means a laboratory which satisfies the requirements of Regulation 5 & 7 and which holds a valid Certificate of Accreditation, and includes the laboratories operated by the Bureau;

   “Bureau” means the Belize Bureau of Standards established under section 3 of the Act;

   “Director” means the Director of Standards appointed under section 4 of the Act;

   “laboratory” means an undertaking engaged in tests, investigations, or research, whether or not for reward, and using recognized test methods, which is managed, directed, or operated by persons qualified and trained in science, engineering or technology;
“recognized test” means a method of test that is:-

(a) included in, or referred to in, a specification or standard;

(b) published by the Bureau, or by an organization recognized by the Bureau as competent in formulating reliable test methods;

(c) recognized by the Bureau as applicable to any specified goods or class of goods, services, process, practice, or to the environment;

“testing facilities” includes the equipment and trained persons necessary to carry out a recognized test.

(2) A word or a phrase not specifically defined in these Regulations but defined in the Act shall have the meaning assigned to it in the Act.

3. (1) For the purposes of conducting tests, analysis and examinations under the Act, the Bureau may appoint a Committee consisting of the Director and other persons qualified by reason of their training, skill and experience to assist in the accreditation of laboratories and testing facilities.

(2) The Committee may formulate criteria and guidelines for the accreditation of laboratories, taking account of criteria and guidelines for such accreditation issued by international or regional bodies concerned with the subject.

4. (1) Application for the accreditation of a laboratory or testing facility shall be made to the Bureau in writing and shall include-

(a) details of the scientific, engineering and technological apparatus which the laboratory or
Standards

testing facility is equipped with and of the arrangements for their proper maintenance and repair;

(b) the names, training, qualifications and experience of persons who would sign reports of recognized tests, and specimens of those persons signatures;

(c) a statement of the goods, services, processes or practices which the laboratory or testing facility is competent and willing to investigate; and

(d) such other information as may be relevant or which the Bureau may require.

(2) In the case of a laboratory or testing facility in Belize, the application shall be accompanied by an undertaking from the applicant -

(a) to allow the staff of the Bureau, and the Committee established under Regulation 3 above inspect the laboratory or testing facility, its apparatus and equipment and interview persons performing recognized tests; and

(b) to maintain the apparatus and equipment in a state of good repair including calibration as the Bureau may from time to time require.

(3) In the case of laboratory or testing facility elsewhere than in Belize the application shall be accompanied by a certificate issued by a competent authority or person, acceptable to the Bureau, that the statements in the application are true and that the laboratory or testing facility is recognized or accredited in its own country for testing such goods, services, processes or practices by such recognized tests as are specified in the certificate.
5. A laboratory or testing facility accredited by the Bureau for the purpose of the Act, shall -

(a) be equipped to carry out recognized tests;

(b) be staffed by trained, competent and experienced persons with training to undertake the recognized tests;

(c) be maintained and kept in good repair and its equipment calibrated as the Bureau may require;

(d) maintain records of recognized tests carried out by it; and

(e) comply with any criteria and guidelines formulated by the Committee set up under Regulations 3 above that relate to the management, quality system, security, storage of samples, or other features related to the reliability of the laboratory.

6. (1) After such investigations or inspections as may be necessary, the Committee shall consider the application, and when satisfied that the laboratory complies with the requirements of Regulation 5, including compliance with relevant criteria and guidelines formulated by the Committee, the Committee shall report to the Standards Advisory Council, recommending that a Certificate of Accreditation be issued, on such terms and conditions as may appear necessary.

(2) A Certificate of Accreditation shall be signed by the Chairman of the Standards Advisory Council and the Director.
(3) A Certificate of Accreditation may be revoked if, upon inspection, it appears to the Bureau or the Committee that the requirements of Regulations 5 are not being complied with.

7. (1) The Bureau may accredit a laboratory or testing facility for the purposes of the Act, without application being made, in any case where the laboratory or testing facility is:

   (a) a department of Government or of a Statutory Authority or is otherwise in receipt of public funds;

   (b) an educational or research institution competent to carry out recognized tests or specializing investigations involving such tests and in receipt of public funds;

   (c) owned, operated, designated, certified or accredited as competent by an organization outside Belize, which is charged with the formulation, application and enforcement of specifications and standards. Where such accreditation is given by the Standards Advisory Council on the basis of accreditation or certification by a body outside Belize, continuation or revocation of accreditation will be considered on information supplied to the Bureau by the foreign accreditation or certification body.

   (2) In the case of a laboratory or testing facility accredited under this Regulation, the Bureau may direct that the holder of a specified post, who is qualified by training and experience, shall sign reports of recognized tests for use in Belize.
8. The committee established under Regulation 3 above may inspect, or cause to be inspected, any accredited laboratory or testing facility from time to time, but not less often than once in two years, and may require additional information to be provided to ensure that the requirements of Regulation 5 are met.

9. (1) Notice of the designation of a laboratory or testing facility as an accredited laboratory or testing facility and notification of every revocation thereof shall be published by the Bureau in the Gazette and in a newspaper in circulation in Belize.

(2) A notice of the designation of a laboratory or testing facility shall be in the form set out as Form II of the Schedule hereto.

10. (1) The laboratories and testing facilities operated by the Bureau may be inspected from time to time, by the Committee established under Regulation 3, for compliance with Regulation 5.

(2) The reports of recognized tests issued by the Bureau’s laboratories or testing facilities, and signed by one or more persons employed by the Bureau and authorized to sign such reports, shall be prima facie evidence of the statements contained in the reports.

(3) The Bureau shall publish from time to time the names of its employees authorized to sign reports of recognized tests.

11. The Bureau shall publish in July of each year a notice in the Gazette containing a list of accredited laboratories and testing facilities, and the names of persons who may sign reports of recognized tests for the purposes of the Act.

12. It shall be lawful for an accredited laboratory or testing facility to refer to the fact that it is accredited, whenever making any advertisement or publicity. Such reference shall be in accordance with guidelines which may set by the

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THE SUBSIDIARY LAWS OF BELIZE

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13. (1) Any person who represents a laboratory, testing facility, or person as accredited under these Regulations when such laboratory, testing facility or person does not have Accreditation Certificate, commits an offence.

(2) Any person who issues a report of a recognized test which is not signed by an authorized person as provided herein commits an offence.

(3) Any person who commits an offence against these Regulations shall be liable, on summary conviction, to pay a fine of three hundred dollars or to imprisonment for a period of three months or to both such fine and period of imprisonment.

14. These Regulations shall come into force on the 22nd day of April, 1997.

MADE by the Minister of Trade and Industry this 22nd day of April, 1997.

(SALVADOR FERNANDEZ)
Minister of Trade and Industry
Minister Responsible for Standards
SCHEDULE

FORM I
[Regulation 4]

PART I

APPLICATION FOR THE ACCREDITATION OF A LABORATORY/TESTING FACILITY

TO: The Director, Belize Bureau of Standards

Sir/Madam

I/WE .................................................on behalf of the organization known under the name of .................................................................hereby make application for accreditation as a laboratory/testing facility for analysis/testing of commodities under the Standards Act for the following commodities
............................................................................................................................
............................................................................................................................
............................................................................................................................

and hereby furnish the particulars specified in Part II of this application.

On behalf of the above-mentioned organization, I/We hereby undertake to carry out all analysis/testing in accordance with the Standards Act and Regulations made thereunder and any lawful directions given by the Belize Bureau of Standards in that behalf.

Yours faithfully,

____________________________
Signature and Stamp of the Applicant
PART II

Names of officers of the organisation and their Positions and Extent of Interest.

1. * Name(s) ..............................................................................................................
   Position and Extent of Interest ..............................................................
   ..............................................................................................................

2. * Place(s) where laboratory(ies)/test house(s) within Belize is (are) located ..............................................................

3. * Details of testing staff of laboratory/test house indicating names, qualification, specialization and experience.

4. * Details/account of each laboratory as follows:
   
   (a) Names and description of scientific, engineering and technological apparatus available and arrangement for their maintenance and repair;

   (b) Names, training, qualifications and experience of persons who should sign reports of recognized tests; and

   (c) Goods, services, process or practices which the laboratory’s testing facility is competent and willing to investigate, as per relevant standard specification.

5. * Previous experience in the field, if any.


7. * How long employed in the business of analysis/testing?

8. * Whether any of the test reports were rejected by buyers? If so give details.

9. * References, if any. (Here give the names of up to three)
10.* Established export and up to three foreign import houses that you may wish to use as references for reputation of business.

NOTES:

*Provide answers on a separate sheet, if necessary.
SCHEDULE
[Regulation 9]

FORM II

NOTIFICATION OF ACCREDITATION OF LABORATORY/TESTING FACILITIES

Notice is hereby given by the Belize Bureau of Standards under Regulation 9 of the Standards (Accreditation of Laboratories and Testing Facilities) Regulation, that the laboratory/testing facility of ...........................................

situated at ..................................................................................................

has been accredited by the Belize Bureau of Standards as a Testing Laboratory/testing facility for the following products as per the following standards.

<table>
<thead>
<tr>
<th>Products</th>
<th>Reference Belizean Standards</th>
</tr>
</thead>
</table>

Signed:______________________________________________
Chairman, Belize Standards Advisory Council

Signed: ______________________________________________
Director, Belize Bureau of Standards
FORM II

NOTICE OF REVOCATION OF
EQUIPMENT/LABORATORY ACCREDITATION

Notice is hereby given by the Belize Bureau of Standards, that the accreditation issued to .................................................................
................................................................................................................
................................................................................................................
................................................................................................................
Laboratory/Testing Facility for the purposes of the Standards (Accreditation of Laboratories and Testing Facilities) Regulations, has been revoked.

Dated: ______________________

Signed: _______________________________________

Director, Belize Bureau of Standards
CHAPTER 295

STANDARDS (INSPECTION AND USE OF STANDARDS MARK OR QUALITY ASSURANCE MARK) REGULATIONS

ARRANGEMENT OF REGULATIONS

1. Short title
2. Interpretation.
3. Inspection generally.
4. Sampling.
5. Inspection of commodities with compulsory or Caricom Standards.
6. Export of commodities with compulsory or Caricom Standards.
7. Procedure when exporting commodities with compulsory or Caricom Standards.
8. Effect of standard mark recognized by Minister on export.
9. Labelling, advertising, and packaging.
10. Notification and publication.
11. Publication of standard mark.
15. Refusal of application.
16. Form and duration of licence.
17. Suspension or cancellation of licence.
Standards

18. Effects of suspension or cancellation of licence.
19. Licensee’s arrangements for inspection and testing.
20. Recall of product.
21. Reinstatement of the recalled product.
22. Technical audit.
23. Register of licences.
24. Register of Consultants.
25. Register of Laboratories.
26. Certification Agreement
27. Restriction on use of standard mark.
28. Use of mark on products.
29. Fees.
30. Payment of fees.
31. Designation and revocation of testing equipment.
32. Commencement.

SCHEDULE
CHAPTER 295

STANDARDS (INSPECTION USE OF STANDARDS MARK OR QUALITY ASSURANCE MARK) REGULATIONS
(Section 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19)

[27th September, 1997]

1. These Regulations may be cited as the

STANDARDS (INSPECTION AND USE OF STANDARDS MARK OR QUALITY ASSURANCE MARK) REGULATIONS.

2. (1) In these Regulations, unless the context otherwise requires:-

“Act” means the Standards Act;

“Applicant” means a person or organization which makes an application to the Belize Bureau of Standards for a licence to use the Belize Standard Mark or the Belize Quality Assurance Mark;

“Bureau” means the Belize Bureau of Standards established under section 3 of the Act;

“Caricom Standard” or “Caribbean Community Standard” means a standard recommended by the Caribbean Common Market Standards Council or a similarly authorized body and approved by the Caribbean Common Market Council of Ministers or a similar body of Ministers;

“Caricom Standards Mark” means the mark or design approved to be licensed for use on goods or in connection with processes, practices or services that conform to the requirements of a Caribbean Community Standard and so...
declared by the Minister by Order published in the Gazette.

“Conformity Certification Mark” means a mark or design licensed by the Bureau for use of goods or in connection with services, processes or practices that conform to a standard published by an international organization or by a standards organization other than the Bureau;

“designated commodity” means any commodity for which a compulsory standard specification is notified under the Act;

“licence” means a licence granted under the Act and in the manner specified in these Regulations to use the Belize Standard Mark or Belize Quality Assurance Mark, in relation to an article or process which conforms to a particular Belizian Standard, or in relation to a plant which uses a system of Quality Assurance approved by the Bureau;

“Quality Assurance” means all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality;

“Quality Assurance Mark” or “Plant Certification Mark” means a mark or design licensed by the Bureau for use in connection with goods that are manufactured or services supplied in accordance with an approved System of Quality Assurance;

“Standard Mark” means the mark prescribed by the Minister under section 10 of the Act, which shall be used in relation to goods, services, processes and practices to distinguish those which conform to a Belizian Standard from those which do not.

(2) A word or a phrase not specifically defined in these Regulations but defined in the Act shall have the meaning assigned to it in the Act.

3. (1) It shall be lawful for an Inspector to take photographs of an Inspection generally.
establishment or of any commodity to which the Act applies.

(2) An inspector may seize and detain a consignment of a designated commodity if he reasonably believes that the Act or any Regulations made thereunder are being contravened. Upon such seizure and detention, the Inspector-

(a) shall attach to the commodity numbered detention tags in the form specified in Form I of the Schedule hereto;

(b) may take samples of the commodity for analysis or testing.

(3) Within twenty four hours of the seizure and detention of the commodity, an Inspector shall send a notice by post to the owner or person who was previously in possession of the commodity, notifying him of the seizure and detention of the commodity. The notice shall be in the form specified in Form II of the Schedule hereto.

(4) If on the basis of an analysis or test report on the samples the Inspector is satisfied that the commodity referred to in subregulation (2) conforms to the requirements of a compulsory standard, he shall release the commodity, and for this purpose the Inspector shall deliver or post to the owner or person in possession thereof a notice of release in the form specified in Form III to the Schedule hereto.

(5) If on the basis of an analysis or test it is found that the sample of the commodity does not conform to the requirements of the compulsory standard, the Inspector shall inform the Bureau accordingly.

(6) If the Bureau is satisfied that a commodity does not conform to the requirements of the compulsory standard, the Bureau may recommend to the Minister that a commodity may be:-
Standards

(a) forfeited;

(b) destroyed at the cost of the owner; or

(c) returned to the owner for reprocessing.

(7) The recommendations specified in sub-regulation (6) (c) may only be made if the Bureau is satisfied that the commodity is capable of being made to conform to the compulsory standard under the supervision of a person designated by the Bureau.

4. (1) When taking a sample for analysis or testing, an Inspector shall, after processing a suitable quantity of the commodity, give written notice to the owner thereof, or the persons from whom the sample was obtained, of his intention to have the commodity analysed or tested.

(2) If the owner or the person from whom the sample is obtained makes a request to retain part of the sample, the Inspector shall divide the commodity into 3 parts, and shall:-

(a) cause each of the 3 parts to be marked and sealed in a manner most convenient to him;

(b) deliver one of the parts to the owner or person from whom the sample was obtained;

(c) retain one of the parts for subsequent comparison or verification; and

(d) submit the third part to the laboratory or test house for analysis or testing.

(3) If no request is made for the retention of part of a sample, the Inspector shall:-
Standards

(a) divide the sample into two parts;

(b) cause each of the parts to be marked and sealed in a manner most convenient to him;

(c) retain one of the parts for subsequent comparison or verification; and

(d) submit the other part to the laboratory or test house for analysis or testing.

(4) Notwithstanding anything contained in this Regulation, where in the opinion of the Inspector, a division of the procured quantity of the sample may interfere with any analysis or testing, the Inspector may, subject to sub-regulation (5) below, seal and submit the entire sample for analysis or testing.

(5) Where, at the time a sample is taken, the owner or person from whom the sample is taken objects to the division of the sample and supplies at his own expense a sufficient quantity of the sample, the Inspector shall follow the procedure described in sub-regulation (4) above when submitting the sample for analysis or testing.

(6) On completion of every analysis or test, an authorized person at the laboratory or test house shall issue a certificate in the form specified in Form IV of the Schedule hereto, stating that the analysis or test has been carried out in respect of the commodity or sample submitted by the Inspector.

5. (1) Where a compulsory standard is declared for any commodity, or if there is not such a standard, where a Caribbean Community Standard has been recognized in respect of that commodity, that commodity shall, if imported, be examined by an Inspector on entry before being delivered out of the charge of the Customs Department.

(2) Where a sample of an imported commodity is taken, the...
Inspector shall as soon as may be practicable thereafter complete and serve, where necessary, the notices referred to in Regulation 3 (2) (b) and (3), and submit the sample to a laboratory or test house for testing or analysis.

(3) Where on the basis of an analysis or test it is determined that samples of an imported commodity are not in conformity with the relevant compulsory standard, or a Caribbean Community Standard, as the case may be, the Inspector shall send a report of the analysis or test to the Comptroller of Customs and to the importer and subject to sub-regulation (4) below, that commodity shall not be admitted into Belize.

(4) Where in the opinion of the Inspector, an imported commodity is capable of being suitably modified so as to effect conformity with the compulsory standard, or the Caricom Standard, as the case may be, the commodity may be admitted for the modification to be carried out under the supervision and the satisfaction of the Bureau.

(5) The Minister may waive the requirements of sampling and analysis of any shipment of designated imported commodity if:

(a) a sample of a similar commodity from the same country of origin is analyzed or tested by a designated laboratory or test house and is found to be in conformity with the Compulsory Standard or the Caricom Standard, as the case may be;

(b) a sample of the commodity taken from a shipment is analyzed or tested in the country of origin by a designated laboratory or test house and is found to be in conformity with the Compulsory Standard or the Caricom Standard, as the case may be, and a certificate of the analysis or test submitted is acceptable to the Director of the Bureau; or
6. (1) No commodity manufactured in Belize may be exported unless the export consignment is accompanied by a certificate of export-worthiness issued by the Bureau stating that the commodity conforms to the relevant standard. This sub-regulation shall apply to all commodities for which a compulsory standard intended to ensure the quality of exported goods is declared, or for which a Caricom Standard exists, as the case may be.

(2) Inspection of the designated export commodity for the purposes of this Regulation shall be carried out by an Inspector at the premises of the manufacturer or exporter, or at the premises where the commodity is stored pending export and at the time when the consignment is ready for export.

7. (1) Subject to sub-regulation (4) below, a person intending to export a designated commodity shall by notice inform the Bureau and shall submit along with that notice, a declaration of specification stipulated in the export contract giving details of all technical characteristics to the Bureau, so as to enable it to carry out an inspection of the designated export.

(2) A notice under this Regulation must be in Form V as set out in the Schedule hereto and shall be accompanied by such fee as the Minister determines.

(3) On receipt of the notice and declaration referred to in sub-regulation (1) above, the Bureau shall cause an inspection of the consignment to be carried out in accordance with these Regulations.

(4) The notice and declaration referred to in this Regulation should reach the Bureau not less than ten (10) days before the consignment is ready for export.
(5) On completion of inspection the packages in the consignment shall be sealed in a manner so as to ensure that the sealed goods cannot be tampered with, but in cases of rejection, if the exporter so desires, he may seal the consignment himself.

(6) If the Bureau is satisfied that the consignment of the designated export commodity conforms to the requirement of the relevant standard, it shall issue three copies of the certificate of export-worthiness to the exporter in the form set out in Form VI of the Schedule hereto.

(7) If the Bureau refuses to issue a certificate of export worthiness, it shall communicate that fact to the prospective exporter in the form set out in Form VII to the Schedule hereto.

8. If an export consignment is affixed with a standard mark recognized by the Minister, no further inspection of the consignment prior to export shall be required or undertaken for the purposes of these Regulations, and the consignment may be exported without a certificate of export-worthiness:

Provided that the provisions of this Regulation shall not apply to exports of samples of a designated commodity if the value thereof does not exceed one hundred Belize dollars.

9. (1) The Minister may direct that any labelling used in connection with any product, food, service, process, or practice, must conform to the standard for labelling published by the Bureau.

(2) When a compulsory standard is declared, or if no such standard is declared, when a Caricom Standard exists for the practice of labelling, the Minister may require that any label found in violation of that standard shall be withdrawn from use and amended as the Minister directs.

(3) All advertising shall conform to the standards for advertising produced and published by the Bureau.
(4) The packaging used for products shall conform to the standards issued or recognized by the Bureau.

10. (1) When the Bureau has-

(a) established a standard, or

(b) recognized a standard, or

(c) cancelled an established standard, it shall cause notification of that fact to be published in the Gazette.

(2) Without prejudice to sub-regulation (1) above, the Bureau may publish, in any other manner approved by the Minister, every standard that is established, recognized, amended or cancelled, and specify in such publication the following particulars:

(a) the number and title of the standard that is established, recognized or cancelled;

(b) the number and title of any standard that is superceded by a new standard;

(c) in the case of a standard that is recognized by the Bureau, the name of the organization which prepared and established the standard; and

(d) any other particulars the Bureau may wish to include in such publication.

(3) Unless otherwise specified, all standards and any amendments thereto shall take effect from the date of publication of the notice in the Gazette in accordance with sub-regulation (1) or (2) above.
11. (1) The Bureau shall cause the design and description of the standard mark and the quality assurance mark to be published in a manner approved by the Minister.

(2) No mark that resembles or is identical with any mark published by the Bureau, shall be registered as a trade mark under any other enactment.

(3) When a mark is published in respect of any article or process, no person other than a licensee, may make any public claim that his product conforms to a standard or that it is entitled to bear the mark.

12. (1) All standards published by the Bureau may be:

(a) purchased at the Office of the Bureau;

(b) examined at the Public Library.

13. (1) The following are eligible to apply for a licence to use the standard mark or the quality assurance mark:

(a) a manufacturer whose products consistently meet the requirement of a Belizean Standard or a Caricom Standard;

(b) a provider of goods and services that are operated in accordance with established guidelines and under an adequate quality assurance scheme;

(c) a distributor/dealer or other person selling products from manufacturers that are licensed to use the standard mark or the quality assurance mark; and

(d) an importer of goods produced by a manufacturer who is licensed to use the standard mark.
Standards

(2) Every application for a licence to use the standard mark shall be:

(a) in Form VIII as set out in the Schedule hereto and shall be completed and signed by the applicant or a person authorized by him;

(b) accompanied by a statement giving details of any scheme of inspection and testing maintained by the applicant for controlling the quality of the article or process in respect of which the licence is sought;

(c) accompanied by proof that the product conforms to the Belizean Standard;

(d) accompanied by the prescribed application fee.

(3) The Bureau shall cause written acknowledgement to be given in respect of every application received by it.

14. (1) When determining an application the Bureau may:

(a) require the applicant to produce evidence that the article or process in respect of which the licence is sought conforms to the appropriate national standard;

(b) require the applicant to produce evidence of a scheme of quality control that is designed to ensure that the product in relation to which the mark has been applied for conforms to the relevant standard;
(c) require the applicant to provide reasonable facilities that would enable an Inspector to verify evidence supplied in support of an application;

(d) request any supplementary documentary evidence in support of any statement in the application;

(e) direct the applicant to submit samples of the commodity at his own expense to a designated laboratory or test house.

(2) No application shall be treated as complete unless matters that are requested or required to be submitted to the Bureau are so submitted.

(3) In addition to the particulars referred to in sub-regulation (1) above, the Bureau shall, where the applicant is a manufacturer, cause the manufacturers’ systems of quality control to be evaluated by a competent body or person to ensure that the manufacturing process is controlled and the commodities produced therefrom consistently meet the requirements of the relevant standard.

(4) In the case of an application for a quality assurance mark, the applicant shall satisfy the Bureau that an appropriate quality assurance system is in operation at the applicant’s premises.

(5) In the determination of an application, the Bureau may, with the approval of the Minister, afford an applicant or a person authorized by him a reasonable opportunity to make oral presentations to the Bureau in support of his application.

(6) The decision of the Bureau in respect of every application made under Regulation 13 above shall be communicated to the applicant in writing, and where an application is refused, the grounds for the refusal shall also be stated in the communication.
15. An application for use of the standard mark may be refused on any of the following grounds:-

(a) that the evidence submitted revealed that the article or process in respect of which the licence is sought does not conform to the appropriate standard;

(b) that the application was incomplete for the reason stated in Regulation 14(2) above;

(c) that the evaluation of the manufacturing process revealed a system of quality control or quality assurance that is inadequate to ensure continuous compliance with the appropriate standard; or

(d) that the information provided by the manufacturer was invalid and not satisfactory to the Bureau.

16. (1) A licence to use the standard mark:-

(a) shall be in Form IX as set out in the Schedule;

(b) shall be valid for a period of one year but may be renewed for a further like period if the licensee makes application therefor and pays the appropriate application fee at least one month before the expiration thereof;

(c) shall take effect on payment of the annual fee specified in Regulation 13 (2) (d); and

(d) shall be subject to such terms and conditions as the Bureau determines.
(2) The application for the renewal of a licence shall be Form X set out in the Schedule hereto and shall be accompanied by the fee specified in sub-regulation (1) (b) above.

(3) The Bureau may decide to vary the terms and conditions attached to a licence and for this purpose the Bureau shall give one month’s notice to the licensee and invite his comments.

17. The grounds upon which a licence may be suspended or cancelled are:-

(a) that the article marked with the standard mark do not conform to the relevant standard;

(b) that the licensee has used the standard mark in respect of a process that does not conform to the relevant standard;

(c) that the licensee has failed to facilitate an Inspector in the performance of his duties under the Act;

(d) that the licensee has failed to comply with the terms or conditions of the licence;

(e) that the licensee-

(i) has been declared bankrupt or insolvent, compounds with his creditors or benefits under the law for the relief of a bankrupt or makes any assignment in whole or in part of his income for the benefit of such creditors;

(ii) has, if the licensee is a company, been liquidated or is being liquidated, whether compulsorily or
Standards

that the licensee has merged with another company or has changed its name in respect of which the licence was issued;

that the product in respect of which the standard mark is used has been verified to have failed to conform to the appropriate standard;

that the licensee has failed to comply with a request from the Bureau to recall a lot or batch of a product that has been verified to have failed to comply with the appropriate standard;

that the licensee has ceased production, or has in writing, requested the Bureau to delete the product from the certified list of products; or

that the licensee has in any way contravened these Regulations.

(2) Before the Bureau suspends or cancels a licence, it shall cause the licensee to be given 14 days notice of its intention to suspend or cancel his licence and the grounds upon which the proposed action is based.

(3) On receipt of a notice under sub-regulation (2) above, the licensee may, within seven (7) days thereof, make written submissions to the Bureau and the Bureau may grant the licensee a hearing within 14 days of the receipt of such submissions.

(4) A decision of the Bureau to suspend or cancel a licence and the grounds upon which it is based shall be communicated in writing to the
Standards

(5) The Bureau shall cause the suspension or cancellation of a licence and the particulars of that licence to be published in the Gazette.

18. (1) When a licence is suspended or cancelled in accordance with these Regulations, the licensee shall immediately discontinue the use of the standard mark, and where a condition thereof is varied the licensee may only use the standard mark in accordance with the valid conditions of the licence.

(2) Where a licensee has in his possession or control any articles that are marked in a manner that is inconsistent with a suspension or cancellation of a licence or with the variation of a term of that licence, the licensee shall take all reasonable steps to ensure that the standard mark on those articles is removed, cancelled, defaced or erased and shall substitute therefor the new terms of the licence in the case of a variation of the licence’s conditions.

19. (1) A licensee shall establish and maintain to the satisfaction of the Bureau a system of control by means of testing and inspection that is designed to ensure that the quality of production or process is consistent with the terms and conditions of his licence.

(2) A licence shall maintain a permanent record of all tests and inspections and other data as may be specified in the licence as evidence of his satisfactory compliance with the system of control referred to in sub-regulation (1) above.

(3) A record maintained for the purpose of sub-regulation (2) above, shall be made available on demand to an Inspector representing the Bureau.

20. (1) A licensee shall recall a product where it has been verified that the product does not conform to the relevant standard to the extent that:

(a) its use could create a health hazard or a safety
Standards

hazard to consumers or the environment; or

(b) its performance in its present state is significantly impaired.

(2) Products recalled by the licensee may be reprocessed, reworked or repaired and returned to the market bearing the standard mark where the licensee, in writing, satisfies the Bureau that the product conforms to the appropriate standard.

(3) The licensee shall be responsible for the programme of recalling defective products, and he shall provide the Bureau with the following information respecting products recalled by him:-

(a) the total number of products that do not conform to the appropriate standard;

(b) his estimate of the time required to complete the recall;

(c) the total number of products recovered by the call programme;

(d) the disposition of the products, that is to say whether the products were reprocessed, reworked, repaired, re-exported, destroyed or otherwise disposed of, and

(e) the reason for failure of the products to initially conform to the appropriate standard and any action taken to prevent a reoccurrence of such failure.
21. (1) A licensee desirous of having a recalled product reinstated shall provide the Bureau with the following:—

(a) the reasons for the recall of the product; and

(b) the corrective measures implemented by him to ensure that the product conforms to the appropriate standard.

(2) Reinstatement of a product may be refused for any reason specified in Regulation 20, or where:—

(a) the product has failed on more than one occasion to comply with the appropriate standard; or

(b) the Bureau is not satisfied that the licensee has remedied the defects giving rise to the initial recall of the product.

22. In carrying out a technical audit of any activity or operation relating to a particular product or process with which the standard mark is associated, an Inspector of the Bureau may examine:—

(a) raw materials;

(b) the process and the manner of control;

(c) the intermediate products, if any;

(d) the scheme of inspection and testing;

(e) testing equipment or facilities;

(f) equipment, maintenance and calibration;
(g) records relating to products sold or exported;

(h) records of testing results; and

(i) records of raw materials purchased.

23. (1) The Bureau shall cause to be maintained a register of all licences.

(2) The register of licences shall contain all material information respecting-

(a) all licences and licensees; and

(b) all renewals, suspensions, variations and cancellations of licences.

24. The Bureau shall cause to be maintained a register of Consultants and Quality Assurance Assessors accredited or recognized by the Bureau.

25. The Bureau shall cause to be maintained a separate register of each testing laboratory that is recognized by it for testing samples of articles processed in relation to a particular standard.

26. (1) A licensee may enter into a written agreement with the Bureau under which the Bureau will provide certification services in accordance with the terms and conditions of that agreement and any endorsement attached thereto, and the licensee shall comply with the terms and conditions of that agreement, and any endorsements thereon, and with these Regulations.

(2) The agreement referred to in sub-regulation (1) above may be in respect of the use of a plant certification mark or the quality assurance mark or a conformity certification mark, or any other mark.
(3) A licensee who has entered into an agreement referred to in sub-regulation (1) above shall:

(a) pay to the Bureau an annual fee which shall be agreed between the licensee and the Bureau;

(b) submit to the Bureau for its approval the form in which he proposes to use the standard mark;

(c) comply in all respects with the scheme of supervision approved by the Bureau in respect of the commodity, process or practice in connection with which he is a licensee;

(d) upon the request of any Inspector, permit that Inspector to enter the premises under the control of the licensee in which, at the time of request, any commodity or any component thereof is being manufactured, tested, processed, or stored or any process or practice is being carried out and to inspect that commodity and any materials, processes, practices and records on those premises.

27. (1) A licensee shall only use the standard mark:-

(a) in such manner and subject to such conditions as may be specified in his licence, and

(b) in connection with the commodity, processor practice specified in his licence.

(2) A licensee shall not, without prior written permission from the Bureau, advertise that he is licensed to use the standard mark in connection

Restriction on use of standard mark.
with any commodity, process or practice and then omit to use the standard mark in connection with that commodity, process or practice while he is so licenced.

(3) If the Bureau informs a licensee in writing that:

(a) the Bureau objects to the manner in which the licensee is using the standard mark;

(b) the Bureau is of the opinion that some statement made by the licensee with reference to his authority to use the standard mark or with reference to other matters relating to the standard mark tends to mislead the public; the licensee shall forthwith discontinue using the standard mark or discontinue making the statement specified by the Bureau.

(4) A licensee who intends to discontinue using the standard mark while his licence is still valid shall give to the Bureau notice in writing of his intention to do so not less than 14 days before he discontinues the use of the standard mark.

(5) A licensee shall, upon the suspension or cancellation of his licence:-

(a) discontinue the use of the standard mark and all advertising matter which contains the standard mark or any reference thereto;

(b) obliterate the standard mark from any article which is in his possession if the Bureau so requires.
28. The Belize standard mark, the Caricom standard mark and the conformity certification mark, shall: -

(a) where applicable, be included in labels or marked on products that are mentioned in the agreement referred to in Regulation 26, or

(b) be included in the list of products maintained by the Bureau, to be known as the “Certified List of Products” in accordance with any labelling or marking requirements.

29. (1) An application for the issue of a licence shall be accompanied by a fee of BZ$100.00 and an application for the renewal of a licence shall be accompanied by a fee of BZ$50.00.

(2) A fee submitted under sub-regulation (1) above shall be non-refundable.

(3) The Bureau, in respect of inspection, tests and other work done in establishing whether the plant or product is suitable for certification require the applicant to pay a fee which is referred to as “an assessment fee” in these Regulations.

(4) An applicant who is granted a licence shall pay an annual licence fee of BZ$100.00 and a further fee referred to hereinafter as a marking fee proportionate to the quantum of annual production of the commodity or process in respect of which the licence is granted.

(5) The Bureau, with the approval of the Minister, determine the marking fee, for each applicant and the fee so determined shall be published in the Gazette.
30. (1) The annual licence fee shall in the first year, be paid at the time of the grant of the licence and thereafter within one month of the expiry of the licence if application is made to renew the licence.

(2) The marking fee and where applicable, the assessment fee shall be paid in a manner to be specified by the Minister by notice in the Gazette.

31. (1) The Bureau may designate or revoke testing equipment used for testing products, processes and practices according to approved and recognized specifications.

(2) In the designation of such equipment, the Bureau will be guided by the following:

(a) the suitability of the equipment for the test to be performed;

(b) actions taken to ensure that the equipment is well maintained and in calibration;

(c) the record of performance of the testing equipment;

(d) the methods used to test the product, process or practice;

(e) the suitability of staff to use the equipment.

(3) Application for the designation of testing equipment shall be made to the Director of the Bureau on the form to be prescribed by the Bureau for that purpose.

(4) A certificate of designation of test equipment by the Bureau
shall be in Form XI set out in the Schedule hereto, if the Bureau is satisfied that the equipment complies with the requirements of sub-regulation (2) above.

(5) Testing equipment shall be revoked by the Bureau if:

(a) the testing equipment is no longer suitable to perform tests;

(b) the equipment has not been maintained in good working order,

(c) the equipment has not been kept in calibration;

(d) the equipment is obsolete and cannot perform to the accuracy required.

32. These Regulations shall come into force on the 1st day of October, 1997.

MADE by the Minister of Trade and Industry this 18th day of September, 1997.

(ALFREDO MARTINEZ)
Minister of Trade & Industry
SCHEDULE

FORM I
[Regulation 3(2)(a)]

STANDARDS ACT
DETENTION TAG

HELD

HELD UNDER THE AUTHORITY OF THE STANDARDS ACT
AND THE REGULATIONS MADE THEREUNDER

DATE...........................................................................................................

ESTABLISHMENT ..................................................................................
................................................................................................................
................................................................................................................
................................................................................................................
................................................................................................................

INSPECTOR ............................................................................................

THE SUBSIDIARY LAWS OF BELIZE

Printed by the Government Printer,
No. 1 Power Lane,
Belmopan, by the authority of
the Government of Belize.
STANDARDS ACT NOTICE OF DETENTION

PLACE ..................................... DATE ............................................

TO  ........................................... ADDRESS  ...............................

TAKE NOTICE THAT: The ........................................ cases of .................
marked ................................brand and said to have originated at .................
under HELD TAG NO. .............................................
The reasons for the detention are as follows ................................................
................................................................................................................
................................................................................................................
................................................................................................................

Remarks ....................................................................................................
................................................................................................................
................................................................................................................

You are hereby forbidden to move or cause or allow the same to be moved
until you have written authority from an inspector appointed under the Standards
Act.

............................................... ...........................................
Acknowledged Inspector
STANDARDS ACT
NOTICE OF RELEASE

PLACE ......................... DATE .........................

TO ............................. ADDRESS .....................

.................................................................

TAKE NOTICE THAT: With reference to the ...........................................
................................................................................................................
................................................................................................................
................................................................................................................

which were placed under detention on .............................................. by

Mr./Ms. ...................... an inspector appointed under the Standards Act, have
been satisfactorily dealt with and released. The details of the commodities are
as follows ...................................................................................................
................................................................................................................
................................................................................................................
................................................................................................................

Held Tag No. .........................

Inspector .............................
SCHEDULE

FORM IV
[Regulation 4 (6)]

STANDARDS ACT
CERTIFICATE OF ANALYSIS/TEST

Name of Designated Laboratory or Test House ............................................
..................................................................................................................
..................................................................................................................

I ...........................................................being a person duly authorized as an
officer of the above laboratory/test house designated under the Standards
Regulations do hereby certify as follows:

1. That on the day of 2____.
   I received from .................................................. a sealed package,
   which said package was unopened and the seals thereon unbroken.

2. That I broke the seals and opened the said package and removed
   therefrom a sample, submitted as a sample of ....................................
   ...........................................................................................................
   ...........................................................................................................
   taken from .............................................................of ....................................

3. That I duly analysed and examined the said sample for the purpose of
   determining if the same conformed to the requirements of the Standards
   Act and the Regulations made thereunder, and I obtained the following
   results ............................................................................................
   .......................................................................................................
   .......................................................................................................

Certified this ...................... day of ...................... 2____.

............................................. .............................................
Designation Analyst/Test

THE SUBSIDIARY LAWS OF BELIZE
REVISED EDITION 2003
STANDARDS ACT
NOTICE OF INTENTION TO EXPORT
A DESIGNATED COMMODITY

TO: THE BELIZE BUREAU OF STANDARDS ........................................
FROM: ....................................................................................................
TAKE NOTICE THAT: It is our intention to export a designated commodity and we are hereby requesting an inspection of the consignment, particulars of which are given below for the issuance of a “Certificate of Export Worthiness” as required under the Standards Regulations for export of the commodity.

I am/We are enclosing a cheque/draft No. ............... dated ............... for BZ$ ............... on towards the inspection fee for this consignment.

(1) Name and address of exporter ......................................................
(2) Name and address of the manufacturer ..........................................
(3) Buyers Order No./Export Contract No. ........................................
(4) Description of the Consignment ..................................................
   (a) Name of Commodity; ......................................................
   (b) Brand Name, if any; ....................................................
   (c) Grade, Size, etc; ......................................................
   (d) Quantity; ..............................................................
   (e) Number of packages; .............................................
   (f) Value/F.O.B./C.I.F; ..................................................
   (g) Shipping Marks; ..........................................................
Standards

(5) Exact address where the goods are placed for inspection:

(6) Technical requirements including specification stipulated in the export contract:

(7) Details of Shipment:

(a) Probable date of loading into the ship/plan: ....................
(b) Name of ship/carrier: ...................................................
(c) Date of departure ....................................................
(d) Port of shipment .....................................................

(8) Details of seals, if any ................................................................

(9) Any other relevant information ..................................................

It is hereby certified that the consignment mentioned above has been manufactured/processed to satisfy the conditions relating to the Quality Control/Inspection applicable to it under the Standards Act and the Regulations made thereunder.

Date: ............................................ Signature: ........................................

Designation: ........................................

Seal of the Exporter: ..........................
STANDARDS ACT
CERTIFICATE OF EXPORT WORTHINESS

No.: ...............

1. Name and address of the exporter: ..............................................................

2. Name and address of the manufacturer: .....................................................

3. Buyer’s Order No./Export Contract No.: ..............................................

4. Description of consignment: .................................................................

   (a) Name of commodity: .................................................................

   (b) Brand name, if any: .................................................................

   (c) Grade, size, etc.: .................................................................

   (d) Quantity as declared by the exporter: ...........................................

   (e) No. of packages: .................................................................

   (f) Value: ..........................................................................

   (g) Shipping marks: ................................................................

5. Details of manufacturer’s seal, if any: ................................................
6. Details of seal of the Belize Bureau of Standards: .................................
..............................................................................................................

7. Carrier and destination: .................................................................
..............................................................................................................
..............................................................................................................

8. Remarks, if any: .................................................................
..............................................................................................................
..............................................................................................................
..............................................................................................................

It is hereby declared that the consignment as per details given above has been inspected as required under the Standards Act and the Regulations made thereunder. It satisfies the conditions relating to Quality Control and Inspection as applicable to it and is certified export worthy.

.................................

Inspector

.................................

Date
SCHEDULE

FORM VII
[Regulation 7(7)]

STANDARDS ACT
NOTICE REGARDING REFUSAL TO ISSUE CERTIFICATE
OF INSPECTION FOR EXPORT OF DESIGNATED
COMMODITY

No.: ...............  

To: ...........................................................................................................  
Messrs. ...........................................................................................................  

From: Belize Bureau of Standards  
Subject: Pre-shipment inspection of: .............................................  

Ref: Your notice No. ....................... Date: .........................  

TAKE NOTICE THAT: On inspection of the above consignment of  
 ...................................................... it has been found that the consignment does  
not conform to the compulsory standard established/recognized under the  
Standards Act, and the Regulations made thereunder, for the following reasons:  
 ......................................................  

..........................................................  

As such it is regretted that the certificate of inspection for export cannot be  
issued in respect of the above mentioned consignment.  

Date: .......................................  

Place: .......................................  

Inspector: .............................
APPLICATION FOR LICENCE TO USE A STANDARD MARK

To: The Director, Belize Bureau of Standards

1. *I/We carrying on business at .................................. (full business address) under the style of ................................. (full name of individual or firm) hereby apply for a licence under the Standards Act to use the Standard Mark in respect of Articles/Class of Articles/Process which conform to the Belizean/Caricom Standard(s) listed below:

(a) **Article
   Type .................................................................
   Size ............................................................... 
   Grade .............................................................
   Brand Name ..................................................

(b) **Class of Articles
   Type .................................................................
   Size ............................................................... 
   Grade .............................................................
   Brand Name ..................................................

(c) **Process
   Type .................................................................
   Grade .............................................................
   Brand Name ..................................................

(d) Related Belizean/Caricom Standard(s)
   No.: Year Title ................................ 
   No.: Year Title ................................ 
   No.: Year Title ................................
2. The above article/process is manufactured/carried out by ............
   ......................................................................................................
on premises situated at .................................................................

3. Production figures for the said article/process and the value thereof to
   the best of my/our knowledge and the estimates are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Unit</th>
<th>Value $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last year from</td>
<td>.................................................................</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current year from</td>
<td>.................................................................</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To</td>
<td>.................................................................</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   | ................................................................. |(estimates).

4. In order to ensure conformity of the said article/process to ............
   Standard
   No.: .................................................................

   * Strike out one not applicable

   ** Only one of the three items under (a), (b) and (c) may be
   covered by one application, strike out the other two.

   * I/We have in use/propose to use, the scheme of inspection
   and testing described in the statement attached hereto.
   Routine records of all the inspections and tests are being/will
   be kept in the manner specified in the statement.

   * I/We further undertake to modify, amend or alter * my/our
   scheme of inspection and testing to bring it into conformity
   with that which may be specified by the Belize Bureau of
   Standards from time to time.
Standards

5. Should any initial enquiry be made by the Belize Bureau of Standards, I/We agree to extend to the Bureau all reasonable facilities at *my/our command and *I/we also agree to pay all expenses of any such enquiry including charges for testing, as and when required by the Bureau.

6. Should the licence be granted and as long as it remains operative, *I/we hereby undertake to abide by all terms and conditions of the licence and the Standards Regulations in the event of a licence being suspended or cancelled, *I/we also undertake to cease with immediate effect to use and to withdraw all relevant advertising matters and to take such other steps as may be necessary to comply with provisions of the above-mentioned Regulations.

Dated this ............... day of ................one thousand nine hundred and ..........

Signature ..........................................

Name ..............................................

Designation .................................

For and on behalf of ................................. (Name of firm).

*Strike out one not applicable
SCHEDULE

FORM IX
[Regulation 16 (1)(a)]

STANDARDS ACT

LICENCE FOR THE USE OF A STANDARD MARK

Licence No.: .........................

1. The Belize Bureau of Standards, by virtue of power conferred on it by the Standards Act, hereby grants to ..................................................
......................................................................................................
......................................................................................................
(hereinafter called the “Licensee”) this licence to use the Standard Mark set out in the First column of Schedule A hereto, upon or in respect of the article(s) set out in the second column of the said schedule which is/are manufactured in accordance with/conforms to the relevant Belizean Standard(s)/Caricom Standard referred to in the third column of the said schedule.

2. This licence carries the rights and obligations stipulated in the Standards Regulation. In pursuance of those said obligations the licensee has paid the marking fee specified in the schedules hereto and shall maintain to the satisfaction of the Belize Bureau of Standards the scheme of inspection and testing a copy of which is hereto attached.

3. This licence shall be valid from .........................and may be renewed as specified in the Regulations.
Signed sealed and dated this day of 2_____.

...........................................................
Director, Belize Bureau of Standards
### Standards

[Regulation 16 (1)(a)]

**SCHEDULE A**

<table>
<thead>
<tr>
<th>Standard Mark (1)</th>
<th>Article/Process (2)</th>
<th>Belize Standard/Other Standard(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SCHEDULE B**

<table>
<thead>
<tr>
<th>Article/Process (1)</th>
<th>Unit (2)</th>
<th>Marking Fee Per Unit (3)</th>
<th>Manner of Payment (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Attachment

To: Licence No.: ..............
   Scheme of Testing and Inspection

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**THE SUBSIDIARY LAWS OF BELIZE**

REVISED EDITION 2003

Printed by the Government Printer,
No. 1 Power Lane,
Belmopan, by the authority of
the Government of Belize.
SCHEDULE

FORM X
[Regulation 16 (2)]

STANDARDS ACT
APPLICATION FOR RENEWAL OF LICENCE TO USE
THE STANDARD MARK

To: Director, Belize Bureau of Standards of .................................

1. *I/We carrying on business at ......................................................
   (Full Factory and Office Address) under the Business Name of ......
   ...................................................................................................
   ...................................................................................................
   or firm apply(ies) for renewal of licence No. ...... dated.............
   by the Belize Bureau of Standards under the Standards Act
   Regulations for a period of year(s), the terms and conditions
   being the same as stipulated in *my/our previous application
   and the aforesaid licence, and/or such other conditions which
   the Bureau may specify.

2. *I/We furnish a report overleaf of *my/our performance and the
   production of goods bearing the Standard Mark for your
   consideration with this application.

3. The licence, complete with attachments, is sent herewith for
   necessary action.

4. The renewal application fee of $ (   ) along with the licence fee
   of $ (   ) are also enclosed herewith vide cheque No. ......................

   Dated this ............. day of ____________________

   Signature .................................

   Name ...........................................

   Seal of Firm for and on behalf of ...........................

   *Strike out one not applicable.
SCHEDULE

FORM X
[Regulation 16 (2)]

STANDARDS ACT
APPLICATION FOR RENEWAL OF LICENCE TO USE
THE STANDARD MARK

REPORT OF PERFORMANCE**

(From .........................) up to the date of submission of this application
(Attachment to the Application of Renewal)

1. Name of the Article(s) .................................................................

2. Total production of article(s) licensed for .................................
   Marking ....................................................................................
   .............................................................................................

3. Total production of articles conforming to Belizean/Caricom Standard:
   .............................................................................................

4. Quantity covered with Standard Mark and its approximate value:
   (a) Quantity ............................................................................
   (b) Value $ ..............................................................................

5. Quantity of article(s) carrying Standard Mark exported and its value
   (a) Quantity ............................................................................
   (b) Value $ ..............................................................................

6. Name and address of importer of article(s) carrying Standard Mark
   .............................................................................................
7. Name and address of local purchaser of article(s) carrying Standard Mark
   .................................................................................................................................

8. Quantity not covered with Standard Mark, if any, and reasons for not applying the Mark
   .................................................................................................................................

9. Brand/Trade Name(s) of article(s) carrying Standard Mark
   .................................................................................................................................

10. Total amount of marking fee due and paid during the year
    .................................................................................................................................

11. Brief information regarding difficulties, if any, experienced in operating the licence
    .................................................................................................................................

   Note: In case the areas of fees are not cleared before the renewal date, the renewal of the licence will not be considered.

   **This part for official use only.
FIRST SCHEDULE

FORM XI
[Regulation 31(4)]

STANDARDS ACT
CERTIFICATION OF DESIGNATION OF TESTING EQUIPMENT

FROM: The Director
Belize Bureau of Standards

TO: ..........................................................................................
..........................................................................................

This is to certify that the equipment, the subject of your application for designation of ................................................has been designated as suitable for use in testing products/process covered by the following specifications ................
....................................................................................................................
....................................................................................................................
....................................................................................................................

Signed ................................................................
Director, Belize Bureau of Standards

Date ................................................................

Seal ................................................................


CHAPTER 295

STANDARDS (BELIZE NATIONAL STANDARDS BZS1: PART1: 1998) (SPECIFICATION FOR LABELLING - GENERAL PRINCIPLES) (DECLARATION AS A COMPULSORY STANDARD) ORDER

ARRANGEMENT OF PARAGRAPHS

1. Short title.
2. Declaration of compulsory standard.
3. Purpose of compulsory standard.
4. Commencement.

SCHEDULE
CHAPTER 295

STANDARDS (BELIZE NATIONAL STANDARDS BZS1: PART1: 1998) (SPECIFICATION FOR LABELLING - GENERAL PRINCIPLES) (DECLARATION AS A COMPULSORY STANDARD) ORDER

(Section 9)

[6th October, 1999.]

1. This Order may be cited as the

STANDARDS (BELIZE NATIONAL STANDARDS BZS1: PART1: 1998) (SPECIFICATION FOR LABELLING - GENERAL PRINCIPLES) (DECLARATION AS A COMPULSORY STANDARD) ORDER.

2. I, JOSE COYE, Minister of Industry and Commerce, in exercise of the powers conferred upon me by section 9(2) of the Standards Act, and all other powers thereunto me enabling, do hereby declare that the Belize National Standards (BZS1: PART 1: 1998: SPECIFICATION FOR LABELLING - GENERAL PRINCIPLES), the full text of which appears in the Schedule hereto shall, upon the commencement of this Order, become a compulsory standard.

3. The purpose of this compulsory standard is primarily to prevent fraud or deception arising from misleading advertising or labelling on any goods and to require that adequate information be given to consumer and users.

4. This Order shall come into force on the 1st day of November, 1999.
MADE by the Minister of Industry and Commerce this 1st day of October, 1999.

(JOSE COYE)
Minister of Industry & Commerce
SCHEDULE
[Paragraph 2]

BELIZE NATIONAL STANDARDS


BELIZE NATIONAL STANDARDS
SPECIFICATION FOR LABELLING PART 1:
GENERAL PRINCIPLES

BBS
BELIZE BUREAU OF STANDARDS
#53 Regent Street
Belize City, Belize
CENTRAL AMERICA

June 1998
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IMPORTANT NOTICE

Belize Standards are subject to periodic review; and revisions will be published from time to time. If you wish to be notified of the next revision complete and return this label to:

BELIZE BUREAU OF STANDARDS,
#53 REGENT STREET,
P.O. BOX 1647,
BELIZE CITY,
BELIZE, C.A.

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BZS STANDARD

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Address:

THE SUBSIDIARY LAWS OF BELIZE REVISED EDITION 2003

Printed by the Government Printer,
No. 1 Power Lane,
Belmopan, by the authority of the Government of Belize.
0 FOREWORD

0.1 This standard has been prepared to guide manufacturers and importers on the labelling considered necessary to give adequate information to purchasers for assessing the usefulness of goods.

0.2 These general principles may be used in preparing labels for goods of all kinds, and will be applied by the Bureau in other standards that will be prepared.

0.3 In the interest of harmonization of standards in the Caribbean Community, this standard is based on the following:

BNS 5: Part 1: 1974 - Standards Specification for Labelling of Commodities (General)
Barbados National Standards Institute;


0.4 The labelling of other types or classes of goods is covered by other parts of this standard.

0.5 Standards for particular goods may also contain requirements for labelling.

1. SCOPE

1.1 This standard describes general labelling requirements for goods. It is applicable to all goods which are customarily labelled in the course of trade, except where more specific requirements are prescribed elsewhere.

2. DEFINITIONS

For the purpose of this standard the following definitions shall apply:

2.1 **Country of Origin** means the country where the nature or quality of goods was last changed to a significant extent, other than by packaging.

2.2 **Goods** means any commodity, article, product or thing which is the subject of trade or commerce.

2.3 **Label** means any brand, design, imprint, legend, mark, pictorial, symbol, tag, word or other descriptive matter, written, printed, stencilled, marked, embossed on or impressed on, attached to or affixed to, sold with, distributed with any goods.

2.4 **Legible** means the writing which can be read and understood without difficulty under the conditions in which the label is normally displayed to the consumer.

2.5 **Manufacturer** means the persons who manufactures,
produces, processes, prepares, packages or prepackages any goods for retail sale or the person who sells any goods under a trade name controlled by that person. It also includes the importer.

2.6 **Sell** means to offer, expose, have in possession for sale or display in such a manner as to lead to a reasonable belief that the goods are intended for sale.

2.7 **Weight** shall be interpreted as meaning the same as the term **Mass** in Physics.

3. **REQUIREMENTS**

3.1 A label affixed to, or marked on any goods or its external packing or referring to any goods shall conform with the following requirements.

3.1.1 It shall give a description of a good and shall provide adequate information to a potential purchaser enabling him to select the goods best suited to his needs. This information shall include the weight, volume, measurements, specification or size as applicable and shall give such accurate description of components of the goods as is necessary.

3.1.2 It shall, if necessary, provide a purchaser with appropriate operating instructions and with information on care, maintenance and precautions in use.

3.1.3 It shall provide the name and postal address of the principal place of business of the manufacturer or packager of the goods enabling the manufacturer or supplier to be traced, and shall state the country of
3.1.4 It shall be legible and durable up to the point of sale, and where appropriate, during normal working life and use.

3.1.5 It shall not give false erroneous information to the identity of the producer or manufacturer.

Note: The required information may be placed on one or more labels, or included on a card or leaflet, depending on the area available, the nature of the goods and the amount of information required.

3.1.6 It is the responsibility of any person who sells or distributes any goods to see that they are labelled as required by this standard.

3.1.7 The information to be included on the label of every container shall be in the English Language, clearly and prominently displayed, and readily legible under customary conditions of purchase and use. Information presented in other language shall be clearly separated from that in English.

4. SUPPLEMENTARY STANDARDS

4.1 Supplementary standards on the labelling of particular goods, groups of goods, or classes of goods will be declared as other parts of this standard.

Note: Some of these parts may be declared as compulsory standards.
5. ADVICE ON LABELS

5.1 The Belize Bureau of Standards shall approve labels as conforming to the requirements of this or to a particular supplementary standard, or to the provisions of any standard referring to the labelling or marking of any particular goods.

6. CONFLICT

6.1 In the event of conflict between this standard and a supplementary standard the latter shall prevail.

6.2 In the event of conflict between the provisions of this standard and the provision of any Belize Standard referring to the labelling or marking of particular goods, the latter shall prevail.
CHAPTER 295


ARRANGEMENT OF PARAGRAPHS

1. Short title.
2. Declaration of compulsory standard.
4. Commencement.

SCHEDULE
STANDARDS (BELIZE NATIONAL STANDARDS BZS1: PART 2:1998) (SPECIFICATION FOR LABELLING - LABELLING OF PRE-PACKAGED GOODS) (DECLARATION AS A COMPULSORY STANDARDS) ORDER

(Section 9)

[16th October, 1999.]

1. This Order may be cited as the


2. I, JOSE COYE, Minister of Industry and Commerce, in exercise of the powers conferred upon me by section 9(2) of the Standards Act and all other powers thereunto me enabling, do hereby declare that the Belize National Standard (BZS1: PART 2:1998: SPECIFICATION FOR LABELLING - LABELLING OF PRE-PACKAGED GOODS), the full text of which appears in the Schedule hereto shall, upon the commencement of this Order, become a compulsory standard.

3. The purpose of this compulsory standard is primarily to prevent fraud or deception arising from misleading advertising or labelling of pre-packaged goods and to require that adequate information to be given to consumers and users.

4. This Order shall come into force on the 1st day of November, 1999.
Standards

MADE by the Minister of Industry and Commerce this 1st day of October, 1999.

(JOSE COYE)
Minister of Industry and Commerce
SCHEDULE

[Paragraph 2]

BELIZE NATIONAL STANDARD

BZS 1: Part 2: 1998

BELIZE NATIONAL STANDARD
SPECIFICATION FOR LABELLING PART 2:
LABELLING OF PREPACKAGED GOODS

BBS
BELIZE BUREAU OF STANDARDS
#53 Regent Street
Belize City, Belize
CENTRAL AMERICA

June 1998
BZS 1: Part 2: 1998

IMPORTANT NOTICE

Belize Standards are subject to periodic review; and revisions will be published from time to time. If you wish to be notified of the next revision complete and return this label to:

BELIZE BUREAU OF STANDARDS,
#53 REGENT STREET,
P.O. BOX 1647,
BELIZE CITY,
BELIZE, C.A.

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BZS STANDARD

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Individual:

Title or Department:

Address:
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BZS 1: Part 2: 1998

BELIZE NATIONAL STANDARD

SPECIFICATION FOR LABELLING PART 2:

LABELLING OF PREPACKED GOODS

0 FOREWORD

0.1 This standard has been prepared to assist packagers and manufacturers in labelling their products so that they are described at the point of sale in a clear, informative, and truthful manner, and so that a consumer can easily understand the nature of the pre-packaged goods.

0.2 Labelling in conformity with this standard will assist the purchaser or consumer in assessing the nature, quality, use or safety of the goods, so that he can judge whether it suits his needs and is of a quality that is acceptably related to the price.

0.3 In drafting this standard, assistance was derived from:


0.4 This standard is intended to be compulsory.
BZS 1: Part 2: 1998

1 SCOPE

1.1 This standard sets out the information to be included on labels of goods prepackaged for retail sale, the method of display of such information, and where necessary the wording and units of measurement to be used.

1.2 This standard does not apply to the following:-

(a) goods or classes of goods where labelling requirements are prescribed by any law in force in Belize;

(b) goods intended for export where different requirements for labelling are prescribed in the country to which they are being exported;

(c) goods or classes of goods covered by other Belize Standard, where the provisions of that standard take procedure over the provisions of this standard;

(d) gift-wrapped goods;

(e) shipping containers, cartons, crates used in transport or storage; and

(f) drugs, antibiotics, and other pharmaceutical preparations.
2 DEFINITIONS

For the purposes of this standard the following definitions shall apply:

2.1 **Address** means the postal address of the principal place of business or registered office of

(a) the manufacturer or packager of the goods; or

(b) the person for whom the goods are manufactured or packaged.

In the case of imported goods, the address may consist of the name of the place where the principal office of the business is located and the name of the country of origin.

2.2 **Bulk Container or Multiple Container** means a package in which one or more similar articles of prepackaged goods are placed and which may be sold together with them by retail as a unit or each prepackaged article may be sold separately.

2.3 **Common Name of any goods** means the name by which those goods are commonly described in Belize, or name for those goods that is commonly used in trade, art, craft, science, industry or occupation in countries using the English Language (whether or not the name is in English). Also includes any name used in a standard declared by the Belize Bureau of Standards for those goods.

2.4 **Competent Authority** means a Minister, Ministry, department of government or statutory body in Belize, administering any law regulating the labelling of goods.
2.5 **Country of Origin** means the country where the nature or quality of the goods was last changed to a significant extent, other than by packaging.

2.6 **Date Mark** means any date by which the age of any article may be determined if it is subject to deterioration in the course of distribution through trade.

2.7 **Distributor** means the person or organization actually engaged in wholesaling directly after the goods are obtained from the manufacturer. The manufacturer may be the distributor of his own products.

2.8 **Expiry Date** means any date after which the manufacturer or packager does not guarantee any property of the goods by reason of the foreseeable deterioration due to age or normal handling before retail sale.

2.9 **Instructions for Use** means any information as to the method of storage, handling, use, installation, care, maintenance or repair that may reasonably assist a consumer or user or purchaser in using any goods, or which may be required to be given in conformity with a standard, warranty, or any law in force in Belize.

2.10 **Label** means any brand, design, imprint, legend, mark, pictorial, symbol, tag, word or other descriptive matter, written, printed, stenciled, marked, embossed on or impressed on, attached to or affixed to, sold with, distributed with any goods.

2.11 **Manufacturer** means the person who manufactures, produces, processes, prepares, packages, or pre-packages any goods for retail sale or the person who sells any goods under a trade name controlled by that person. It also includes the importer.
2.12 **Net Contents** means the quantity of goods contained in a package as measured in terms of a unit of measurement of length, volume, weight (or mass), or number, when the package and packing materials have been separated from the goods.

2.13 **Package** means a receptacle, container, wrapper, box, confining band, or cord in or on which goods are enclosed for use in the delivery, or display of that commodity to retail purchasers. It does not include package liners, shipping containers or any other wrapping or box not customarily displayed to the consumer or purchaser at the point of retail sale.

2.14 **Pre-packaged Goods** means goods placed in advance of sale in the final package, in which they are intended for retail sale, and in which they may be sold, used or purchased without further repackaging.

2.15 **Principal Display Panel** means the part of the package which is most likely to be displayed, presented, shown or examined under the customarily conditions of display for retail sale.

2.16 **Retail Price** means the price set or asked by a retailer for:

   (a) one or a specified number of articles of the goods; or

   (b) one or a specified number of units of measurement of the goods.

2.17 **Sell** means to offer, expose, have in possession for sale or display in such a manner as to lead to a reasonable belief that the goods are intended for sale.
2.18 **Shipping Container** means any container intended to protect goods during transport which is not customarily used to store the goods when displayed for sale.

2.19 **Unit of Measurement** means any unit in the metric (SI) system of units or the Imperial System of units or any other unit prescribed by law for use in trade, or commonly used in trade, science, the arts, or other occupations to measure the properties of an Article.

2.20 **Warranty or Guarantee** means an undertaking given by a vendor, manufacturer, distributor or supplier to a buyer or consumer with respect to any goods or part of goods, relating to any of the following matters, that is to say:

- (a) safety;
- (b) quantity;
- (c) quality;
- (d) composition;
- (e) performance;
- (f) life span;
- (g) durability;
- (h) repair and maintenance services;
- (i) replacement of goods if found defective;
Standards

BZS 1: Part 2: 1998

(j) compensation to the buyer or consumer for any defective goods supplied, or loss, harm, damage or undue hardships resulting from use of any defective goods supplied; or

(k) any other related matters not included under (a) to (j) above.

2.21 **Set or Kit** means a number of different articles sold together in one retail package which are intended to be used together, or for similar purposes, or to be assembled to form a single article.

3 **REQUIMENTS**

3.1 **General** - Each package of prepackaged goods shall be labelled with the following information;

(a) the common name of the goods; together with any brand name or registered trade name;

(b) the name and identifiable business address of processor, manufacturer, packer, importer or distributor and the country of origin;

(c) an accurate declaration of the net-contents of the package, subject to such tolerances as may be allowed, in appropriate units of measurement.

(d) such accurate description of the major ingredients or components of the goods as recommended by the Belize Bureau of Standard; and

(e) an expiry date or date mark where an indication of
BZS 1: Part 2: 1998

the age of the goods is likely to be useful to the consumer or purchaser.

3.1.1 Responsibility for correct labelling - It is the responsibility of any person who sells or distributes any prepackaged goods to see that they are labelled as required by this standard.

3.2 Prevention of Deception - A label on a package of prepackaged goods may contain other information, designs, symbols or pictorial matter, provided that no words, illustrations, symbols, or other matters are used:

(a) to give an erroneous impression as to the net content of the package;

(b) to give an erroneous impression as to any ingredient or component of the goods or that the goods contain an ingredient or component that is not in fact contained in it;

(c) referring to the nature, origin, type, quality, performance, function or method of manufacture or production of the goods that is likely to give an erroneous impression as to the matter described or depicted;

(d) to give an erroneous impression as to the country of origin of the goods;

(e) to give an erroneous impression as to the price of the goods;
BZS 1: Part 2: 1998

(f) to give an erroneous impression as to the ease of maintenance or repair of the goods, or as to the availability of spare parts for the goods; and

(g) to give an erroneous impression as to the producer or manufacturer.

3.3 Position of Information on Package or on the Goods

3.3.1 The information required by 3.1 shall be placed on the principal display panel of the package, that is to say, the part of the package that is displayed or visible to the purchaser or consumer at the point of sale, which may be:

(a) in the case of a box, the side or surface commonly displayed;

(b) in the case of a cylindrical container, an area covering an arc of the circumference of the cylindrical surface;

(c) in the case of a bag with equal sides, one of these sides;

(d) in the case of a bag with sides of more than one size, the side with the largest area;

(e) in the case of a wrapper or confining band that is much narrower than the goods contained therein; the total area of a ticket or tag attached to the container or to the goods;
3.4 Exemption for Certain Retail Sales - Goods which are repackaged by the retailer need not be labeled with the information required by 3.1 so long as they are sold or displayed or exposed for sale in close proximity to a notice, card, or statement in clearly discernible lettering containing the information required by 3.1.

3.5 Language to be used on Labels of Prepackaged Goods

3.5.1 All statements required shall be in the English Language, except where the common name, manufacturer’s name, or address are in other languages.

3.5.2 All statements required shall be printed or written in the English alphabet with or without accent signs.

3.5.3 All numbers relating to net content stated on the label shall be given in Arabic numerals or in words.

3.5.4 Where the label contains information in English and in one or
more other languages, the statements required by 3.1 shall be separate from the statements in the other languages, and placed on the label or package as required by 3.3.

3.6 Information as to Retail Price or Unit Price

3.6.1 The label on a package may include a statement of the price of the goods in the package.

3.6.2 Where the price of a package of the goods is not marked on the label or on the package, the price shall be clearly displayed on a card or notice placed in close proximity to the place where the goods are displayed or exposed for sale.

3.6.3 Where units of the same goods differ in quantity so that packages containing the goods are not uniform in net content of each package shall be marked by the packager or retailer on the label together with the price for a unit of measurement of the goods.

3.6.4 Where a claim is made:

(a) that the goods are sold at a new price which is less than a previous price; or

(b) that an amount has been taken off the price of the goods;

the old and new prices shall be stated in figures of equal size and style.
3.7 **Warranties or Guarantee** - No reference shall be made on label or on a package to a warranty or guarantee unless:

(a) the warranty or guarantee is valid and will be honoured in Belize; and

(b) the terms of the warranty or guarantee are made available to the purchaser or consumer at the time he takes possession of the goods.

3.8 **Presentation of Information** - All information required by this standard to be placed on a label or ticket shall be clearly presented and readily discernible under normal conditions of sale.

3.8.1 Where the statements of common name or manufacturer’s name or manufacturer’s address or country of origin consist of more than one word, the statements thereof required by 3.1 shall be in letters of identical size and style of print. No statement shall be in letters of less than 1.58 mm (1/16 in) in height.

3.8.2 The information required by 3.1 parts (a) and (b) shall be placed on the principal display panel of the package; that is to say, that part of the package that is most likely to be displayed or visible to the purchaser or consumer at the point of sale.

3.8.3 The information required by 3.2 parts (c), (d) and (e) shall be shown on any part of the label except that part of the label, if any, applied to the bottom
3.9 Date Marking and Expiry Dates

3.9.1 Where the goods are liable to deteriorate within a period of six months after the date of manufacture or packaging so that the quality, safety, hygiene or other desirable characteristic is not likely to be maintained, a date mark shall be placed on the goods, on the label or on the package, and on any bulk container or shipping container. Such a date mark shall not be defaced or removed from the goods or from the label.

3.9.2 An expiry date may be used in place of a date mark, stated in such words as “Not guarantee after (date)” or “Best if used before (date)”.  

3.10 Instructions for Use - and information on Source of Spare Parts

3.10.1 Where any risk to the safety or health of a consumer or user or where any significant deterioration of the quality, performance life, durability, or other property of the goods may result if the goods are not properly stored, handled, transported, used, installed, cared for, maintained or repaired, any appropriate hazard symbol and instructions for use in English shall be provided either on the label, on the package, on the goods, or on a card or paper accompanying the goods or package.
3.10.2 Where components of an article are likely to become unserviceable before the end of the expected life of the article, and where such components are not commonly available, the instructions for use should indicate:

(a) the name or appropriate specification of the component or spare part; and

(b) the name and the address of a person in Belize who will be able to supply such a component during the expected period of life of the article.

3.10.3 Where no instructions for use are given with the article or goods, the information on spare parts shall be supplied separately with the goods.

3.11 Sets Kits

3.11.1 Where a package contains a set or kit, the label shall indicate:

(a) the number of pieces or items included; or

(b) the article which is produced by assembling the pieces included therein.

4. USE OF THE BELIZE STANDARD MARK AND OTHER MARKS

4.1 The use of the Belize Standard Mark on labels is regulated under the Standards Act, and is administered by the Belize Bureau of Standards.
4.2 The use of other standard marks on labels is also regulated by the Standards Act, and by the organizations owing or operating such marks.

4.3 Any claim to comply with a Belize Standard, or a foreign or international standard or specification shall be substantiated by recent reports of tests or inspections, to be made available on request.

5. **ADVICE ON LABELS**

5.1 An applicant shall submit labels or drafts of label to the Belize Bureau of Standards for advice as to whether they comply with this or any other standard on labelling.

5.2 The Bureau may refer the applicant to any competent authority administering a law that includes labelling requirements for particular goods.

6. **CONFLICT**

6.1 In the event of conflict between the provisions of this standard and the labelling requirements of any Belize Standard referring to particular goods the latter shall prevail.

6.2 In the event of conflict between the provisions of this standard and any Belize Standard for the labelling of classes of goods which are sold pre-packaged, the latter shall prevail.
CHAPTER 295

STANDARDS (BELIZE NATIONAL STANDARD BZS1: PART 3: 1998) (SPECIFICATION FOR LABELLING - LABELLING OF PRE-PACKAGED FOOD) (DECLARATION AS A COMPULSORY STANDARD) ORDER

ARRANGEMENT OF PARAGRAPHS

1. Short title.
2. Declaration of compulsory standard.
3. Purpose of compulsory standard.
4. Commencement.

SCHEDULE
CHAPTER 295

STANDARDS (BELIZE NATIONAL STANDARD BZS1: PART 3: 1998) (SPECIFICATION FOR LABELLING - LABELLING OF PRE-PACKAGED FOOD) (DECLARATION AS A COMPULSORY STANDARD) ORDER

(Section 9)

[16th October, 1999.]

1. This Order may be cited as the Standards (Belize National Standard BZS1: Part 3: 1998) (Specification for Labelling - Labelling of Pre-Packaged Food) (Declaration as a Compulsory Standard) Order.

2. I, JOSE COYE, Minister of Industry and Commerce, in exercise of the powers conferred upon me by section 9(2) of the Standards Act, and all other powers thereunto me enabling, do hereby declare that the Belize National Standard (BZS1: Part 3: 1998: Specification for Labelling - Labelling of Pre-Packaged Foods), the full text of which appears in the Schedule hereto shall, upon the commencement of this Order, become a compulsory standard.

3. The purpose of this compulsory standard is primarily to prevent fraud or deception arising from misleading advertising or labelling of pre-packaged food and to require that adequate information be given to consumers and users.

4. This Order shall come into force on the 1st day of November, 1999.
MADE by the Minister of Industry and Commerce this 1st day of October, 1999.

(JOSE COYE)
Minister of Industry and Commerce
SCHEDULE
Paragraph 2

BELIZE NATIONAL STANDARD


BELIZE NATIONAL STANDARD
SPECIFICATION FOR LABELLING PART 3:
LABELLING OF PREPACKAGED FOOD

BBS
BELIZE BUREAU OF STANDARDS
#53 Regent Street
Belize City, Belize
CENTRAL AMERICA

June 1998

IMPORTANT NOTICE

Belize Standards are subject to periodic review; and revisions will be published from time to time. If you wish to be notified of the next revision complete and return this label to:

BELIZE BUREAU OF STANDARDS,
#53 REGENT STREET,
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Organization:
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Title or Department:
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BELIZE NATIONAL STANDARD

SPECIFICATION FOR LABELLING PART 3:

LABELLING OF PREPACKAGED FOOD

Committee Representation

The preparation of this standard for the Standard Advisory Council established under the Standards Act was carried out under the supervision of the Bureau’s Technical Committee for Labelling, which at the time comprised of the following members:

TECHNICAL COMMITTEE

CHAIRMAN
Mr. Phillip Miliken
ADM Belize Mills Limited

MEMBERS
Dr. Michael DeShield
Ministry of Agriculture and Fisheries

Mr. Godswell Flores
Public Health Bureau

Mr. Wayne McNab
Romac’s Supermarket Limited

SECRETARY

Mrs. Helen Reynolds-Arana
Belize Bureau of Standards
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BELIZE NATIONAL STANDARD

SPECIFICATION FOR LABELLING PART 3:

LABELLING OF PREPACKAGED FOOD

0 FOREWORD

0.1 This standard is the third in a series of standards on the labelling of commodities.

0.2 It has been prepared in an effort to prevent fraud and deception arising from misleading labelling, as well as to provide adequate information to the consumer or user of pre-packaged foods.

0.3 It is expected that this standard will assist Belize manufacturers in meeting the labelling requirements of regional and extra regional markets.

0.4 Emphasis has been given to the need for international co-operation among standard practices prevalent in different countries of the world. Help has been given in this effort by reference to the following documents:

CODEX STAN 1: 1985 - General Standard for the Labelling of Pre-packaged Food (Revised Text), Codex Alimentarius Commission;

BNS 5: Part 2: 1994 - Labelling of Pre-packaged Foods, Barbados National Standards Institute;
Standards


0.5 This standard is intended to be compulsory.

1. SCOPE

This standard applies to the labelling of all pre-packaged foods to be offered as such to the consumer or for catering purposes and to certain aspects relating to the presentation thereof. This specification is not applicable to a food which is:

(a) sold in an open or uncovered package;

(b) weighed, measured or counted into the package in which it is sold in the presence of the purchaser; and

(c) packaged from bulk at the place where food is sold by retail in transparent, colourless, flexible material.

2. DEFINITION OF TERMS

For the purpose of this standard the following definitions shall apply:

2.1 Alcoholic Beverages means a liquid containing ethanol and includes spirits, liqueurs, wines, malt liquors, cider, perry, champagne, beer, stout, and spirit compounds used as foods, but does not include flavouring preparation.

2.2 Batch/Lot means a definitive quantity of a commodity
Standards


produced essentially under the same conditions.

2.3 **Claim** means any representation which states, suggests or implies that a food has particular qualities relating to its origin, nutritional properties, nature, processing, composition or any other quality.

2.4 **Competent Authority** means a Minister, Ministry, department of government or statutory in Belize (other than the Belize Bureau of Standards) administering any law regulating the labelling of food.

2.5 **Consumer** means person or persons and family or families purchasing and receiving food in order to meet their personal needs.

2.6 **Container** means any packaging of food for delivery as a single item, whether by completely or partially enclosing the food and includes wrappers. A container may enclose several units or types of packages when such is offered to the consumer.

2.7 **Country of Origin** means the country where the nature or quality of goods was last changed to a significant extent, other than by packaging.

2.8 For use in **Date marking** of pre-packaged food.

2.8.1 **Date of manufacture** means the date on which the food becomes the product as described.

2.8.2 **Date of minimum durability** (“Best before”) means the date which signifies the end of the period under any
2.8.3 **Sell-by-date** means the last date of offer for sale to the consumer after which there remains a reasonable storage period in the home.

2.8.4 **Use-by-date** (recommended last consumption date) (expiration date) means the date which signifies the end of the estimated period under any stated storage conditions, after which the product probably will not have the quality attributes normally expected by the consumer. After this date, the food should not be regarded as marketable.

2.9 **Date of packaging** means the date on which the food is placed in the immediate container in which it will be ultimately sold.

2.10 **Food** means any substance, whether processed, semi-processed or raw, which is intended for human consumption, and includes drinks, chewing gum and any substance which has been used in the manufacture, preparation or treatment of “food” but does not include cosmetics or tobacco or substances used only as drugs.

2.11 **Food additive** means any substance not normally consumed as a food by itself and not normally used as a typical ingredient for food, whether or not it has nutritive value, the intentional
addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result, (directly or indirectly) in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include “contaminants” or substances added to food for maintaining or improving nutritional quantities.

2.12 **Foods for catering purposes** means those foods for use in restaurants, canteens, schools, hospitals and similar institutions where food is for immediate consumption.

2.13 **Ingredient** means any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form.

2.14 **Label** means any brand, design, imprint, legend, mark, pictorial, symbol, tag, word or other descriptive matter, written, printed, stencilled, marked, embossed on or impressed on, attached to or affixed to, sold with, distributed with any goods.

2.15 **Labelling** includes any written, printed or graphic, branded, stencilled, marked, embossed or impressed matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal.

2.16 **Manufacturer** means the person who manufactures, produces, processes, prepares packages, or pre-packages any goods for retail sale or the person who sells any food under a trade name controlled by that person. It also includes the importer.
2.17 Pre-packaged means placed, in advance of sale, in the final package in which it is intended for retail sale, and in which it may be sold, used or purchased without further packaging.

2.18 Processing aid means a substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfill a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable in presence of harmless residues or derivatives in the final product.

3. GENERAL PRINCIPLES

3.1 Pre-packaged food shall not be described or presented on any label or in any labelling in a manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect.

3.2 Pre-packaged food shall not be described or presented on any label or in any labelling by words, pictorial or other devices which refer to or are suggestive either directly or indirectly, of any other product with which such food might be confused, or in such a manner as to lead the purchaser or consumer to suppose that the food is connected with such other product.

4. MANDATORY LABELLING OF PREPACKAGED FOODS

4.1 Presentation of information

4.1.1 The following information shall appear on the label of pre-packaged food as applicable to the food being labelled.
4.1.1.1 Labels on pre-packaged food shall be applied in such a manner that they will not become separated from the container.

Statements required to appear on the label by virtue of this standard or any other Belize Standards shall be clear, prominent, indelible and readily legible by the consumer under normal conditions of purchase and use.

4.1.1.2 Where the container is covered by a wrapper, the wrapper shall carry the necessary information on the label or the container shall be readily legible through the outer wrapper or not obscured by it.

4.1.1.3 The name and net contents of the food shall appear in a prominent position and in the same field of vision.

4.2 The name of the food

4.2.1 The name shall indicate the true nature of the food and normally be specific and not generic:

4.2.1.1 Where more than one name has been established for a food in a Belize Standard, at least one of these names shall be used.

4.2.1.2 In other cases, the name prescribed by national legislation shall be used.

4.2.1.3 In the absence of any such name, either a common or usual name existing by common usage as an appropriate descriptive term which was not misleading or confusing to the consumer shall be used.

4.2.1.4 A “coined”, “fanciful”, “brand name”, or “trade mark” may be used provided it accompanies one of the names provided in Subsections 4.2.1.1 to 4.2.1.3.

4.2.2 There shall appear on the label either in conjunction with, or in close proximity to, the name of the food, such additional words or phrases as necessary to avoid misleading or confusing the consumer in regards to the true nature and physical condition of the food. This should include but not be limited to the type of packing medium, style, and the condition or type of treatment it has undergone; for example: dried concentrated, reconstituted, or smoked.

4.3 **List of ingredients**

4.3.1 Except for single ingredient foods, a list of ingredients shall be declared on the label.

4.3.1.1 The list of ingredients shall be headed or preceded by an appropriate title which consists of or includes the term “ingredient”.

4.3.1.2 All ingredients shall be listed in descending order of ingoing weight (m/m) at the time of the manufacture of the food.

4.3.1.3 Where an ingredient is itself the product of two or more ingredients, such a compound ingredient may be declared, as such, in the list of ingredients provided that it is immediately accompanied by a list in brackets of its ingredients in descending order of proportion (m/m). Where a compound ingredient for which a
name has been established in a Belize Standard or in national legislation constitutes less than 25% of the food, the ingredients other than food additives which serve a technological function in the finished product need not be declared.

4.3.1.4 Added water shall be declared in the list of ingredients except when the water formed part of an ingredient such as brine, syrup or broth used in a compound food and declared as such in the list of ingredients. Water or other volatile ingredients evaporated in the course of manufacture need not be declared.

4.3.1.5 In the case of dehydrated or condensed foods which are intended to be reconstituted by the addition of water only, the ingredients may be listed in order of proportion (m/m) in the reconstituted product provided that a statement such as “ingredients of the product when prepared in accordance with the direction on the label” is included.

4.3.2 A specific name shall be used for ingredients in the list of ingredients in accordance with the provisions set out in Section 4.2 (The name of the food) except that:

4.3.2.1 The following class name may be used for the ingredient falling within these classes:

Name of Classes

- Refined oils other than olive
- Refined fats
- Starches, other than chemically modified starches.
- All species of fish where the fish constitutes an ingredient of another food and provided that the labelling and presentation of such food does not refer to a specific species of fish.
- All types of poultrymeat where such meat constitutes an ingredient of another food and provided that the labelling and presentation of such a food does not refer to a specific type of poultrymeat.
- All types of cheese where the cheese or mixture of cheeses constitutes an ingredient of another food and provide that the labelling and presentation of such food does not refer to a specific type of cheese.

Class Name

- "Oil" together with either the term "vegetable" or "animal", qualified by the term "hydrogenated" or "partially-hydrogenated" as appropriate.
- "Fat" together with either, the term "vegetable" or "animal", as appropriate.
- "Starch".
- "Fish"
- "poultrymeat".
- "Cheese".
4.3.2.2 Notwithstanding the provision set out in Section 4.3.2.1, pork fat, lard and beef fat shall always be declared by their specific names.

4.3.2.3 For food additives falling in the respective classes and appearing in list of food additives permitted for use in foods generally, the following class titles shall be together with the specific name or recognised numerical.
identification as required by national legislation.

Anti-caking agent(s)
Antioxidant(s)
Colour(s)
Emulsifier(s)
Flavour Enhancer(s)
Glazing Agent(s)
Preservative(s)
Stabilizer(s)
Thickener(s)/Gelling agent(s)
Anti-foaming agent(s)
Flour Treatment agent(s)
Artificial Sweetener(s)
Acidity Regulator(s)
Propellant(s)
Raising agent(s)/Baking Powder
Emulsifying Salt(s)*

4.3.2.4 The following class titles may be used for food additives falling in the respective classes and appearing in lists of food additives permitted generally for use in foods.

Flavour(s) and Flavouring(s)
Modified Starch(es)

The expression “flavours” may be qualified by “natural”, “nature identical”, “artificial” or a combination of these words as appropriate.

* Only for processed cheese and processed cheese products.
4.3.3 QUANTITATIVE LABELLING OF INGREDIENTS

4.3.3.1 Where the labelling of a food places special emphasis on the presence of one or more valuable and/or characterizing ingredients, or where the description of the food has the same effect, the ingoing percentages of the ingredient(s) (m/m) at the time of manufacture shall be declared.

4.3.3.2 Similarly, where the labelling of a food places special emphasis on the low content of one or more ingredients, the percentage of the ingredient(s) (m/m) in the final product shall be declared.

4.3.3.3 A reference in the name of a food to a particular ingredient shall not of itself constitute the placing of special emphasis. A reference in the labelling of a food to an ingredient used in a small quantity and only as a flavouring shall not itself constitute the placing of special emphasis.

4.4 Processing aids and carry-over of food additives

4.4.1 A food additive carried over into a food in a significant quantity or in an amount sufficient to perform a technological function in that food as a result of the use of raw materials or other ingredient in which the additive was used shall be included in the list of ingredients.
4.4.2 A food additive carried over into foods at a level less than that required to achieve a technological function, and processing aids, are exempted from declaration in the list of ingredients.

4.5 **Net contents and drained weight**

4.5.1 The net contents shall be declared in the metric system (Systeme International Units) immediately followed by Imperial Units in Brackets.*

4.5.2 The net content shall be declared in the following manner:

(a) for liquid food, by volume;

(b) for solid foods, by weight, except when such foods are usually sold by number, then a declaration by count may be given; and

(c) for semi-solid or visceous foods, either by weight or volume.

4.5.3 In addition to the declaration of net contents, a food packed in a liquid medium shall carry a declaration of the drained weight of the food. For the purpose of this requirement, liquid medium means water, aqueous solutions of sugar and salt, fruit and vegetable juices in canned fruits and vegetables only or vinegar, either singly or in combination.

* The declaration of net contents represents the quantity at the time of packaging.
4.6 Name and address

The name and postal address of the manufacturer of the food shall be declared.

4.7 Country of Origin

4.7.1 The country of origin of the food shall be declared.

4.7.2 When food undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

4.8 Batch/Lot identification

Each container shall be permanently marked to clearly identify the lot.

4.9 Date marking and storage instructions

4.9.1 The following date mark shall apply:

(a) the “date of minimum durability” shall be declared.

(i) this shall consist at least of

- the day and the month for products with a minimum durability of not more than three months.

- the month and the year for products
Standards


with a minimum durability of more than three months. If the month is December, it is sufficient to indicate the year.

(ii) the date shall be declared by the word:

- “Best before...” where the day is indicated:

(iii) the words referred to in paragraph (ii) shall be accompanied by:

- either the date itself, or
- a reference to where the date is given.

(iv) the day, month and year shall be declared in uncoded numerical sequence except that the month may be indicated by letters where such use will not confuse the consumer.

(v) notwithstanding 4.9.1 (i) an indication of the date of minimum durability shall not be required for:

- fresh fruits and vegetables, including potatoes which have not been peeled, cut or similarly treated;
- wines, liqueur wines, sparkling wines, aromatized wines, fruit wines, sparkling fruit wines, and stout;
4.9.2 In addition to the date of minimum durability, any special conditions for the storage of the food shall be declared on the label if the validity of the date depends thereon.

4.10 Instructions for use

Instructions for use, including reconstitution, where applicable, shall be included on the label, as necessary, to ensure correct utilization of the food.

5 IRRADIATED FOODS

In the case of

(a) a food which can be treated with ionizing radiation/energy;

(b) a food which contains an irradiated ingredient; and

(c) a single ingredient product prepared from a material which has been irradiated;

an indication of the irradiation treatment and the overall dose of radiation absorbed by the food/ingredient shall occur on the main panel of the label on the finished product in close proximity to the name of the food.

5.1 Presentation of Information

5.1.1 The label of a food which has been treated with ionizing radiation shall carry a written statement indicating that treatment in close proximity to the name of the food. The use of the international food irradiation symbol, as shown below, is optional, but when it is used, it shall be in close proximity to the name of the food.

5.1.2 When an irradiated product is used as an ingredient in another food, this shall be so declared in the list of ingredients.
5.1.3 When a single ingredient product is prepared from a raw material, which has been irradiated, the label of the product shall contain a statement indicating the treatment.

6. EXEMPTIONS FROM MANDATORY LABELLING REQUIREMENTS

With the exception of spices and herbs, small units, where the largest surface area is less than 10 cm² (4 in²), may be exempted from the requirement of paragraph 4.3 and 4.8 to 4.10.

7. OPTIONAL LABELLING

7.1 Any information or pictorial device written, printed, or graphic matter may be displayed in labelling provided that it is not in conflict with the mandatory requirements of this standard and those relating to claims and deception given in Section 3 - General Principles.

7.2 Grade designation

If grade designations are used, they should be in conformance with national legislation, understandable and not be misleading or deceptive in anyway.

8. LANGUAGE

8.1 Language to be used on labels.

8.1.1 The information to be included on the label of every container shall be in the English Language.
8.1.2 For export of goods to bilingual countries, all information displayed on the label of every container shall be shown in both official languages. Only the name and business address of the processor, manufacturer, packer or distributor may be shown in one of the official languages.

9. ADDITIONAL INFORMATION

9.1 Where a food consist of, or contain as an ingredient meat from an animal killed by methods of religious or ritual preparation, the food may be labelled:

(a) “Kosher” if using the method accepted by the Jewish religion;

(b) “Halal” if using the method accepted by the religion of Islam.

10. GENERAL EXEMPTION

10.1 A processed food that is prepackaged and labelled in English in accordance with the laws or standards in force in Canada, the Caribbean Community, the European Union, or the United States of America shall be deemed to comply with this standard.

11. ADVICE ON LABELS

11.1 An applicant shall submit labels or drafts of labels for prepackaged processed foods to the Belize Bureau of Standards for advice as to whether they comply with this standard. The Bureau may require further information before giving an opinion.
Standards


11.2 The Bureau may refer the applicant to any competent authority administering a law that includes requirements for the labelling of a particular processed food.

12. CONFLICT

12.1 In the event of conflict between this standard and a supplementary standard the latter shall prevail.

12.2 In the event of conflict between the provisions of this standard and the provisions of any Belize Standard referring to the labelling or marking of particular foods, the latter shall prevail.
CHAPTER 295

STANDARDS (BELIZE NATIONAL STANDARD BZS 9:2002) (SPECIFICATION FOR PASTA) (DECLARATION AS A COMPULSORY STANDARD) ORDER

ARRANGEMENT OF PARAGRAPHS

1. Short title.
2. Declaration of Compulsory Standard.
3. Purpose of Compulsory Standard.
4. Commencement.

SCHEDULE
STANDARDS (BELIZE NATIONAL STANDARD BZS 9:2002) (SPECIFICATION FOR PASTA) (DECLARATION AS A COMPULSORY STANDARD) ORDER

CHAPTER 295

[11th January, 2003.]

1. This Order may be cited as the

STANDARDS (BELIZE NATIONAL STANDARD BZS 9:2002) (SPECIFICATION FOR PASTA) (DECLARATION AS A COMPULSORY STANDARD) ORDER.

2. The Belize National Standard (BZS 9:2002: SPECIFICATION FOR PASTA), the full text of which appears in the Schedule, shall, upon commencement of this Order, become a Compulsory Standard.

3. The standard referred to in paragraph 2 is intended primarily-

   (a) to protect the consumer or user against danger to health and safety;

   (b) to ensure quality in goods produced for home use or for export;

   (c) to prevent fraud or deception arising from misleading advertising or labeling;

   (d) require adequate information to be given to the consumer or user; and
Standards

(e) to ensure quality in any case where there is restriction in choice of source of supply.

4. This Order shall come into force on the 1st day of January, 2003.

MADE by the Minister of Natural Resources, the Environment, Trade and Industry the 30th day of December, 2002.

( JOHN BRICEÑO )
Minister of Natural Resources, the Environment, Trade and Industry
BELIZE NATIONAL STANDARDS

BZS 9: 2002

BELIZE NATIONAL STANDARD

SPECIFICATION FOR PASTA

BELIZE BUREAU OF STANDARDS
53 REGENT STREET
BELIZE CITY,
BELIZE, CENTRAL AMERICA
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APPENDIX A - Determination of Moisture Content

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APPENDIX C - Determination of Protein
0 FOREWORD

0.1 This standard has been prepared to set levels of quality for pasta products that are manufactured in or imported into Belize.

0.2 Pasta products that conform to the requirements of this standard, that are manufactured under an approved system of quality assurance are eligible to be marked with the Belize Standard Mark, which is administered by the Belize Bureau of Standards.

0.3 Macaroni, spaghetti, vermicelli and noodles are popular foods in Belize, either when used alone or with other foods. The requirements of this standard are set to ensure that the product is acceptable to consumers, and can be met by any manufacturer who pays attention to the raw materials used, processing, handling and packaging.

0.4 This standard is adopted from CCS 32: 1994 - Caribbean Community Standard or Pasta Products (Macaroni, Spaghetti, Noodles).

1 SCOPE

1.1 This standard prescribes requirements for macaroni, spaghetti, vermicelli, noodles and egg noodles that are made in the forms and materials described below.

1.2 Pasta products used in preparing other foods (for example, canned soups) or included in packages of ingredients that are prepackaged for retail sale (for example, soup mixes, macaroni cheese) are also covered by this standard.
1.3 This standard does not apply to food in forms resembling spaghetti or vermicelli made from rice, bean curd, or cereals other than wheat.

2 DEFINITIONS

For the purpose of this standard the following definitions shall apply.

2.1 Macaroni shall be the food manufactured by drying formed units of a dough made from semolina, durum wheat flour, farina flour, or any suitable wheat flour (separately or in combination) mixed with potable water with or without ingredients listed in Section 3 below. Macaroni includes the forms mentioned below.

2.2 Suitable wheat flour (separately or in combination) mixed with potable water with or without ingredients listed in Section 3 below. Macaroni includes the forms mentioned below.

2.3 Egg Noodles shall be food manufactured by drying formed units of a dough made from semolina, durum wheat flour, farina flour, or any suitable wheat flour (separately or in combination) mixed with whole egg (pasteurised, frozen or dried), with or without potable water and with or without any of the ingredients listed in Section 3 below.

2.4 Food Grade, as applied to an ingredient, means that the material conforms to the requirements for the purity and safety of that ingredient set out in any one of the following:

   (a) Specification for food additives issued by the FAO/WHO Joint Expert Committee on Food Additives;

   (b) FAO/WHO Codex Alimentarius Commission;
Standards

BZS 9:2002

(c) US Food Chemical Codex;

(d) US Food and Drugs Regulations;

(e) Canadian Food and Drugs Regulations; and

(f) Regulations or standards administered by, or acceptable to an authority in the Caribbean Community responsible for the quality and safety of foods.

3 REQUIREMENTS FOR COMPOSITION

3.1 The moisture content of pasta products shall not be greater than 12.0 percent by weight.

3.2 The protein content and the ash content shall be in accordance with levels set out in Table 1 for the products named.
### Table 1
(Section 3.2)
Protein and Ash content of Pasta Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Protein Content Minimum, % by Weight</th>
<th>Ash Content Maximum % by Weight</th>
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<tbody>
<tr>
<td>Plain Macaroni</td>
<td>12.0</td>
<td>0.80</td>
</tr>
<tr>
<td>Milk Macaroni</td>
<td>12.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

(n.a. means ‘not applicable’)

3.3 **Pasta products** may only be described as “Enriched” if the vitamins named in Table 2 are present within the limits indicated, on the basis of dry matter.
3.3.1 **Enriched pasta products** may also contain:-

(a) Calcium, (as Ca) 500 to 625 parts per million;

(b) Wheat germ, partially defatted, 5 percent (maximum) on the basis of dry matter.

3.4 **Macaroni, spaghetti, and vermicelli** may be described as “Quick Cooking”, if they contain between 0.5 percent and 1.0 percent of disodium hydrogen phosphate on the basis of dry matter, calculated as $\text{Na}_2\text{HPO}_4\cdot 7\text{H}_2\text{O}$.

3.5 **Pasta products** described as “Wheat and Soya” shall contain between 12.5 percent and 15.0 percent of soya flour, calculated as a percentage of the total amount of wheat flour and soya flour used in the dough.

3.6 **Macaroni** (except in the forms of noodles) described as “Vegetable” shall contain not more than 2 percent of vegetable, on a dry basis, as a percentage of total amount of

---

**Table 2**

(Section 3.3)

“Enriched” Pasta Products

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Minimum and Maximum Proportions by Weight, parts per million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niacin, Niacinamide</td>
<td>50 to 60</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>3 to 4</td>
</tr>
<tr>
<td>Thiamine</td>
<td>7 to 9</td>
</tr>
</tbody>
</table>

---

**Standards BZS 9:2002**

**Vitamin Minimum and Maximum Proportions by Weight, parts per million**

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Minimum to Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niacin, Niacinamide</td>
<td>50 to 60</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>3 to 4</td>
</tr>
<tr>
<td>Thiamine</td>
<td>7 to 9</td>
</tr>
</tbody>
</table>
cereal and vegetable used in the dough.

3.7 **Plain Egg Noodles** shall contain not less that 5.5 percent by weight of egg yolk solids on dry basis, as indicated by a minimum lipid phosphate content of 0.136% P₂O₅.

3.8 **Vegetable Egg Noodles** shall contain between 3 percent and 5 percent by weight of vegetable, on a dry basis, as a percentage of the total amount of cereal and vegetable used in the dough, and not less than 5.5 percent by weight of egg yolk solids.

3.9 Pasta products qualified by the word “**milk**” shall be made from dough where potable water is replaced with milk (or mixture of milks component with water, equivalent in composition to milk).

3.10 **Pasta products** shall be:-

(a) free from insects, insect parts, rodent hairs, and other foreign matter;

(b) free from mould, mouldy, stale, or bitter tastes, or other objectionable flavour;

(c) reasonably free from broken or cracked units; and

(d) smooth surfaced, characteristic in colour, and having a flavour characteristic of the product and of the ingredients used.

3.11 **All ingredients** shall be ‘food grade’.
3.12 **Pasta products** shall not contain the toxic elements mentioned in column 1 below in amounts exceeding the maximum limits specified in column 2;

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic, As</td>
<td>1 part per million</td>
</tr>
<tr>
<td>Copper, Cu</td>
<td>20 parts per million</td>
</tr>
<tr>
<td>Lead, Pb</td>
<td>2 parts per million</td>
</tr>
<tr>
<td>Zinc, Zn</td>
<td>50 parts per million</td>
</tr>
</tbody>
</table>

4. **REQUIREMENTS FOR SHAPE AND STYLE**

Pasta products shall be described by the following terms relating to shape and style.

4.1 **Macaroni, or Long Macaroni**, shall be in the form of cylindrical, hollow, nearly straight units which are between 215 mm and 280 mm in length, 2.8 mm to 6.9 mm in outer diameter, and reasonably uniform in dimensions.

4.2 **Elbows, or Elbow macaroni**, shall be in the form of cylindrical, hollow, units made from macaroni dough which are U-shaped, and between 2.8 mm and 6.9 mm in diameter and between 1 mm and 38 mm in length, measured along the inner curve of the U, and reasonably uniform in dimensions.

4.3 **Spaghetti** shall be in form of cylindrical, solid or hollow units made from macaroni dough, between 1.5 mm and 2.5 mm in diameter, 215 mm and 280 mm in length, and reasonably uniform in dimensions.
4.4 **Vermicelli** shall be in the form of slightly curved or almost straight cylindrical solid units made from macaroni dough not more than 1.5 mm in diameter, between 12 mm and 280 mm in length, and reasonably uniform in dimensions.

4.5 **Lasagna** shall be in the form of wide flat or crinkled-edge ribbons made from macaroni dough, between 30 mm and 60 mm wide, 250 to 300 mm in length, and less than 3 mm in thickness, reasonably uniform in dimensions.

4.6 **Noodles** (including **Egg Noodles**) shall be in the form of narrow ribbons made from macaroni dough (or egg noodle dough), between 150 mm and 280 mm in length 3 mm to 6 mm in width and, between 2 mm and 4 mm in thickness, reasonably uniform in dimensions.

4.7 **Macaroni - Other Forms**

4.7.1 Macaroni may be presented in other forms, such as:-

(a) curl; - twisted ribbons;

(b) flat; - ribbons wider than noodles;

(c) shell; - moulded in form of a shell;

(d) star; - moulded in form of a six-point star;

(e) wheel; - moulded in form of a spoked-wheel;
(f) short cuts; - macaroni of diameter as in 4.1 but in short pieces, straight or curved, between 15 mm and 20 mm between ends;

(g) alphabet; - macaroni dough moulded in the form of various letters of the alphabet and numbers.

4.7.2 Macaroni may also be presented for sale in mixtures of the forms described in 4.2 and 4.7.1, if described as “mixture”.

5. MICROBIOLOGICAL REQUIREMENTS

5.1 When sampled and tested in accordance with the Recommended Methods issued by the American Public Health Association for the Microbiological Examination of Food, pasta products shall conform to the following requirements:

(a) Total Bacterial Count - not more than 100,000 organisms/gram;

(b) Coliform Count not more than 100 organisms/gram.

5.2 Pasta products which are to be used in the preparation of canned foods (or frozen foods) shall conform to the following requirements:

(a) Total Thermophilic spores: - not more than 150/10 g in one sample and, on average; not more than 125/
6 REQUIREMENTS FOR HYGIENE IN PRODUCTION

6.1 Raw materials

6.1.1 Materials to be used in manufacturing pasta products shall be inspected before they are used in processing. Defective materials shall be removed and kept separate from those to be used in processing.

6.1.2 All water used in processing or, in washing equipment, shall be of potable quality, and any steam used in processing, or sterilising or cleaning equipment shall be generated from potable water.
6.2 Construction and location of Buildings

6.2.1 A factory or plant manufacturing the products mentioned in this standard, and its location and site, shall conform to the requirements of the authority responsible for food hygiene, or that are set by the National Standards Body, and the following particular requirements shall be met:-

(a) the buildings shall be of sound construction, kept in good repair, and built of durable materials, which will not release harmful substances;

(b) the buildings shall be protected against the entrance of birds, insects, rodents and other vermin;

(c) the building shall have ceiling, floors and walls made so that they may be easily cleaned, and are impervious to moisture;

(d) the buildings shall have adequate ventilation, lighting, water, and steam (or heat) supplies, and waste-water drainage suitable to each room or area where inspection, processing, or packaging operations are carried on;

(e) lighting fixtures shall be designed, placed, and protected so that their breakage will not contaminate the product;
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(f) the buildings shall have adequate number of locker (dressing) rooms, lunch rooms, lavatories and toilet rooms for the staff, which shall be kept clean and in good working order;

(g) lavatories and toilets, lunch rooms, and locker rooms shall not open directly into any room or area used in processing or handling the product;

(h) the buildings shall have plumbing and sewerage facilities that are acceptable to the relevant authority, and which prevent cross-contamination between waste and water used in processing and cleaning;

(i) the factory shall have equipment for inspection, storage and handling of the raw materials, processing, packaging;

(j) storage, transportation of the product that is suitably designed for proper use and cleaning, with non-toxic and non-absorbent surfaces that will not contaminate the product and that withstand the effects of materials used in cleansing and sanitising; and

(k) the factory shall have adequate facilities for the cleansing and sanitising of process equipment, storage containers, and other articles relevant to the safety and purity of the product.
6.2.2 The factory or plant shall preferably be located in an area which is open, clean, and healthy, not subject to frequent flooding, and a distance of several hundred metres from:

(a) garbage dumps, stagnant water, open sewage drains or sewage treatment plants;

(b) cattle, pig, or poultry farms, stables;

(c) sources of dust, such as quarries, unpaved roads, or highways;

(d) industrial plants that emit smoke, dust, ash, fumes, objectionable odours; or

(e) unsanitary unregulated temporary housing.

6.2.2.1 The site shall be kept clean, tidy and in good order at all times, and free from dust as far as possible.

6.2.2.2 The site shall be fenced so that the operator of the factory or plant can control access to the factory by members of the public; the fence shall be constructed to prevent entry of rodents or other small animals, and kept clear of weeds and in good repair.

6.2.2.3 A secure area on the site shall be provided for the temporary storage of waste materials,
which shall be removed regularly in a sanitary manner.

6.3 **Sanitation**

6.3.1 A factory manufacturing the products covered by this standard shall operate a sanitation programme that is acceptable to the authority responsible for food hygiene or to the National Standards Body including in particular the following:-

(a) sanitising of equipment or containers shall be done using steam, or chemical agents which have adequate bactericidal action, and any residues of chemical agents shall be rinsed from equipment or containers using steam or potable water;

(b) any compressed air used in the factory which may come into contact with the product, or with equipment surfaces which contact the product, or with containers, shall be free from oil dirt, rust, and shall not affect the odour, colour, flavour, or microbiological quality of the product;

(c) the surfaces of all equipment that comes into contact with the product, or used in processing, transport, handling, or storage of the product in the factory shall be kept cleaned and sanitised, and shall be regularly inspected and cleaned to maintain sanitary conditions;
(d) after cleaning, all equipment, utensils, process containers, disassembled pipe lines and valves shall be drained and protected from contamination until used; they may be cleaned again just before use;

(e) all lavatories, toilets, sinks and drains shall be maintained so that odours and fumes therefore do not enter any room or area where the product is handled;

(f) wash-hand basins shall be placed close to toilets and supplied with running water; and soap;

(g) notices shall be prominently displayed instructing staff to wash their hands immediately after using toilet facilities;

(h) staff shall not eat, drink, or smoke in rooms where the product is handled, or packaged;

(i) There shall be an effective programme of insect and rodent control, and no dogs, cats, or other pets shall be allowed in the factory;

(j) no person suffering from a communicable disease, or with an open and infected lesion, cut, or wound shall be allowed to work where he/she may contaminate the product;

(k) persons handling the product shall wear a hair
standards covering and, sanitary clothing, and where necessary, clean impermeable gloves, and shall not wear loose jewellery or other articles that might contaminate the product;

(l) food, drink, or tobacco shall not be stored in areas where the raw materials are inspected stored, or processed, or where the product is handled or packaged; and

(m) all workers engaged in the inspection or handling of raw materials, in processing, in packaging the product, or handling or cleaning equipment, utensils or containers, shall undergo an annual medical examination to determine whether they are fit, and free from any communicable disease that may contaminate the product.

6.4 Processing

6.4.1 Processing shall be carried out so that there is no risk of contamination of the product, or of adverse changes in its colour, aroma, flavour, consistency, or other characteristics.

6.4.2 The manufacturer shall ensure that all instruments on processing equipment indicating temperature, time, or pressure are regularly calibrated and are maintained in working order.

6.4.3 The manufacturer shall maintain records of the processing conditions and of any applied to each batch of product and keep such record for at least one year.
after the date of productions. These records shall be available for inspection by the authority responsive for food hygiene or the National Standards Body.

7. Packaging

7.1 Retail containers for pasta products shall be made of non-toxic materials that will not contaminate the product or affect its colour, aroma, flavour, consistency or other characteristics, and shall be designed to withstand the foreseeable stresses that may occur during packing, handling, storage and transport.

7.2 Retail containers shall protect pasta products against moisture, dust, rodents, or insects, under the usual conditions, of transport, storage, handling, and sale.

7.3 Retail containers shall be protected during transport and wholesale by suitable shipping containers.

8. Labelling Requirements

8.1 The labelling on retail packages of pasta products shall be in the English language, clearly and prominently displayed, and readily legible under customary conditions of purchase and use. Information presented in other languages shall be clearly separated from that in English.

8.2 The information carried on the label shall include:

(a) the name of the food (macaroni and its forms spaghetti, vermicelli, soya, milk, vegetable, or egg noodles) as appropriate;
(b) any brand name or trade name;

(c) the name of the manufacturer, or of the person responsible for the brand name or trade name, together with an adequate postal address for the manufacturer or for the responsible person;

(d) the name of the country of origin;

(e) the average net contents of the retail package when packed, in “Arabic” numerals, in units of grams (g) or kilograms (kg), which may also be stated in terms of Avoirdupois ounces (oz of lb.); and

(f) a list of ingredients in descending order of their proportion by weight.

8.3 Where vitamins, minerals, calcium or wheat germ are added in accordance with 3.3 and 3.3.1, the word “Enriched” may appear close to the name of the food, and the proportions of niacin or niacinamide, thiamine, riboflavin, iron, calcium or wheat germ shall be stated in terms of mg/100 g, parts per million (ppm), or other accepted units.

8.4 Nutritional data may be stated in terms of the Recommended Daily Allowances (RDA) established by the US authorities, the Caribbean Food and Nutrition Institute, or the World Health Organisation.

8.5 Where the product conforms to the requirements set out above for milk macaroni, whole wheat macaroni, vegetable macaroni, wheat and soya macaroni vegetable egg noodles or wheat and
soya egg noodles, the appropriate name shall be stated.

8.6 The product may be described as “Quick Cooking” where it contains disodium hydrogen phosphate within the limits set in 3.4 above.

8.7 Where different forms or colours of macaroni are indicated in a retail package, the label shall include a statement indicating that it contains “Mixed (Names of forms or colours)” “Assorted (names of forms or colours)”.

8.8 Storage instructions may be included on the label, and a batch number or date of manufacture may be used.

9. QUALITY ASSURANCE

9.1 To be eligible for a licence to use the be Belize Standard Mark, the manufacturer of the pasta products that are included in this standard shall operate a quality assurance system conforming to the general requirements of ISO 9002 using adequate staff, sampling procedures, and test equipment, as approved by the Belize Bureau of Standards.

9.2 An approved quality assurance system may include sampling or test procedures that differ from those mentioned in Sections 10 or 11.

9.3 It is recommended that pasta products be manufactured under an approved quality assurance system.
10. **SAMPLING**

10.1 Where a consignment consists of products known to come from different manufacturing batches, which can be separated, each batch shall constitute one lot. Packages that have been damaged or contaminated during handling, transport, and storage shall be kept separate, and samples from such unsound material shall not be mixed with samples from sound packages.

10.2 Samples shall be taken from each lot of packages found in the same place. The number of packages to be taken for the sample is related to the size of the lot, as shown in Table 3.
### Table 3
(Section 10.2)
SAMPLING PLAN

<table>
<thead>
<tr>
<th>Size of Lot</th>
<th>Number of Packaged to be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Number of Packages</td>
<td>Packages 100 to 300g</td>
</tr>
<tr>
<td>1 to 6</td>
<td>all</td>
</tr>
<tr>
<td>6 to 1000</td>
<td>6</td>
</tr>
<tr>
<td>1001 and more</td>
<td>8</td>
</tr>
</tbody>
</table>

10.3 Units shall be taken from each package sufficient to provide a bulk sample of 100 g to 500 g, and stored in a clean, dry, air-tight and moisture tight container labelled with relevant information.

10.4 A laboratory sample is prepared by rapidly milling or grinding the pasta units in the bulk sample, so as to pass a #20 sieve, and placing the powder in a clean, dry, air-tight and moisture tight container, properly labelled.

10.5 In cases of dispute the bulk sample or the laboratory sample may be divided into three parts one for each party and one for reference.
11. TESTING

11.1 The test methods described in Appendices A, B and C shall be used to determine whether a sample from a lot of pasta product conforms to the requirements of Sections 3.1 and 3.2 (Table 1).

11.2 The methods in the Appendices should also be used for routine quality assurance but other methods which are more rapid and of equal or comparable accuracy may be used.

11.3 The percentage of egg yolk in solids in egg noodles is to be determined by extraction of lipids and estimation of the phosphate content of the lipids, by the methods given as 14.028 and 14.029 in the AOAC Official Methods of Analysis, 14th Edition (1994).

11.4 Methods for determination of the levels of niacin, riboflavin, and thiamine, and for traces of arsenic, copper, lead and zinc are not included in this standard. Methods published by the AOAC (Association of Official Analytical Chemists, Washington, D.C, U.S.A.) or the International Union of Pure and Applied Chemistry (IUPAC), Oxford, UK, should be used.

11.5 The methods of test to be used for microbiological requirements in Section 5 are those issued by the American Public Health Association.

12. CONFORMITY

12.1 A lot or consignment sampled as in Section 10 shall be deemed to conform to the requirements of this standard if the test results for each characteristic satisfy the requirements of Sections 3,
12.2 Pasta products produced under an approved quality assurance system shall be deemed to conform to this standard if: -

(a) test results from routine samples taken from production satisfy the requirements of Section 3, 4 and 5; and

(b) test results from samples taken at intervals of not more than six months satisfy the requirements of Table 2; or

(c) records of the use of enriched flour or of vitamins and minerals show that the requirements of Table 2 are met; and

(d) test results from samples taken at intervals of not more than six months satisfy the requirements of Section 3.12.

APPENDIX A

Determination of Moisture Content

A  –  1.0 Principle

A sample of pasta is dried to constant mass at 130-133°C.
A – 2.0 Apparatus

The usual laboratory apparatus, including:

(a) analytical balance, weighing to 1 mg;

(b) desiccator, containing an effective desiccant such as ignited calcium oxide;

(c) metal dish, diameter about 50-60 mm, depth 15 mm, with a close-fitting cover, which will not corrode in the conditions of the test;

(d) oven controlled to a constant temperature between 130°C and 135°C, with ventilation.

A – 3.0 Procedure

(a) The metal dish with its cover is previously heated to 100°C and cooled in the desiccator, and is weighed when at room temperature to the nearest 1 mg;

(b) Approximately 5 g of the laboratory sample (Section 10.4) is introduced into the dish, covered, and weighed to the nearest 1 mg;

(c) the dish, cover, and sample are placed in the oven, the sample is covered, and left for 90 minutes at 130-135°C;

(d) the dish is then covered, rapidly removed from the oven, and placed in the desiccator to cool to room temperature;
(e) the dish, cover, and sample are then weighed to the nearest 1 mg soon after reaching room temperature.

A - 4.0 Calculation

The percentage moisture content is given by:

\[
\text{Moisture } \% = \frac{m_2 - m_3}{m_2 - m_1} 
\]

Where:

- \( m_1 \) = mass of dish and cover
- \( m_2 \) = mass of dish, cover and sample
- \( m_3 \) = mass of dish, cover and dried sample

NOTE: The above method is equivalent to AOAC (1994) 14.004
APPENDIX B

Determination of Ash Content

B – 2.0 Principle

The sample of pasta is ignited at 550°C.

B – 2.0 Apparatus

The usual laboratory apparatus, including:

(a) analytical balance, weighing to 1 mg;
(b) desiccator, containing an effective desiccant;
(c) dish of fused silica, to hold 5 g of flour;
(d) furnace, capable of maintaining a temperature of 550 ± 5°C.

B – 3.0 Procedure

(a) the dish is first heated in the furnace to 550°C for 10 minutes, then let cool in the desiccator to room temperature and weighed to the nearest 1 mg;

(b) approximately 3 to 5 g of the laboratory sample of pasta (Section 10.4) is immediately placed in the dish and weighed to the nearest 1 mg;

(c) the dish and sample are ignited in the furnace at 550°C until grey ash is obtained, then they are removed and let cool in the desiccator to room temperature, and weighed to the nearest 1 mg.
B – 4.0 Calculation

The percentage ash content is given by

\[
\text{ash} \% = \frac{m_3 - m_1}{m_2 - m_1} \times 100
\]

where

- \( m_1 \) = mass of dish
- \( m_2 \) = mass of dish and sample;
- \( m_3 \) = mass of dish and ashed sample.
APPENDIX C

Determination of Protein

C  –  1.0 Principle

The percentage of nitrogen in the pasta is determined and the protein content is calculated as 5.7 x %N.

C  –  2.0 Apparatus

The usual laboratory apparatus, including

(a) Kjeldahl flasks 600 - 800 m capacity, of thick well-annealed glass;

(b) Kjeldahl distillation apparatus with a scrubber or trap to catch caustic soda spray, and exit from condenser dipping in a receiver containing acid;

(c) heating device for Kjeldahl flask, capable of heating 250 ml of water to 100°C from 25°C in about 5 minutes.

C  –  3.0 Reagents - all of analytical grade;

(a) methyl red indicator 1 mg methyl red in 200 ml ethanol;

(b) potassium sulphate or anhydrous sodium sulphate, N-free;

(c) mercuric oxide, (Hg O). N-free (or metallic mercury);

(d) sodium hydroxide pellets, N-free (may be used as
aqueous solution, 450 g in 1 litre);

(e) sulphuric acid, 93 - 98 %, N-free;

(f) standard sodium hydroxide solution, 0.1 N or 0.5 N;

(g) standard hydrochloric or sulphuric acid solution, 0.1 N or 0.5 N;

(h) thiosulphate solution, 80 g Na$_2$S$_2$O$_3$.5H$_2$O in 1 litre;

(i) zinc granule.

C – 4.0 Procedure

(a) place about 2.0 - 2.5 g of the laboratory sample of pasta (Section 10.4), accurately weighed, in a Kjedahl flask, add 0.7 g HgO or 0.65 g metallic mercury, 15 g K$_2$SO$_4$ or Na$_2$SO$_4$ and 30 ml of strong sulphuric acid, and heat in an inclined position until frothing has ended (froth may be controlled by adding a small amount of paraffin, and then boil for about 120 minutes;

(b) let the flask cool, and then add 200 ml of water, and cool again to room temperature, add 25 ml of thiosulphate solution and mix to precipitate mercury, then a few of the zinc granules to prevent bumping;

(c) tilt the flask and carefully add a layer of sodium hydroxide without shaking (use about 15 g solid NaOH or equivalent in solution for 10 ml sulphuric acid added in step (a) above), and immediately connect
the flask to the scrubber and condenser, then mix contents;

\((d)\) the end of the condenser is placed dipping below the surface of 30 - 35 ml of standard acid, accurately measured into the receiver, with 5-7 drops of methyl red;

\((e)\) the flask is heated until all the ammonia has distilled over (about 150 ml distillate) into the receiver, then the condenser is removed after washing the end into the receiver, and the excess of standard acid in the distillate is titrated with the standard sodium hydroxide solution;

\((f)\) a blank titration is done on the reagents used as above.

C - 5.0 Calculation

The percentage of nitrogen in the flour is given by:

\[
\%N = \frac{(B - T) \times N\text{-soda} \times 1.4007}{\text{mass of sample}}
\]

where \(B\) = number of ml of standard sodium hydroxide used in the blank titration;

\(T\) = number of ml of standard sodium hydroxide solution used in titration for determination;

\(N\text{-soda}\) = normality of standard sodium hydroxide solution.
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C – 5.1 The percentage of protein in the pasta is given by

\[ 5.7 \times \%N \]
CHAPTER 295

STANDARDS (BELIZE NATIONAL STANDARD BZS 10:2002) (SPECIFICATION FOR BOTTLED/PACKAGED WATER) (DECLARATION AS A COMPULSORY STANDARD) ORDER

ARRANGEMENT OF PARAGRAPHS

1. Short title.
2. Declaration of Compulsory Standard.
3. Purpose of Compulsory Standard.
4. Commencement.

SCHEDULE
STANDARDS (BELIZE NATIONAL STANDARD BZS 10:2002) (SPECIFICATION FOR BOTTLED/PACKAGED WATER) (DECLARATION AS A COMPULSORY STANDARD) ORDER

(Section 9)

[11th January, 2003.]

1. This Order may be cited as the

STANDARDS (BELIZE NATIONAL STANDARD BZS 10:2002) (SPECIFICATION FOR BOTTLED/PACKAGED WATER) (DECLARATION AS A COMPULSORY STANDARD) ORDER.

2. The Belize National Standard (BZS 10: 2002: SPECIFICATION FOR BOTTLED/PACKAGED WATER), the full text of which appears in the Schedule, shall, upon commencement of this Order, become a Compulsory Standard.

3. The standard referred to in paragraph 2 is intended primarily-

(a) to protect the consumer or user against danger to health and safety;

(b) to ensure quality in goods produced for home use or for export;

(c) to prevent fraud or deception arising from misleading advertising or labeling;
(d) require adequate information to be given to the consumer or user; and

(e) to ensure quality in any case where there is restriction in choice of source of supply.

4. This Order shall come into force on the 1st day of January, 2003.  

MADE by the Minister of Natural Resources, the Environment, Trade and Industry the 30th day of December, 2002.

(JOHN BRICEÑO)

Minister of Natural Resources, the Environment, Trade and Industry

COMMENCEMENT.
BZS 10:2002

SCHEDULE
[Paragraph 2]

BELIZE NATIONAL STANDARDS

BZS 10:2002

BELIZE NATIONAL STANDARD

SPECIFICATION FOR BOTTLED/PACKAGED WATER

BELIZE BUREAU OF STANDARDS
53 REGENT STREET
BELIZE CITY
BELIZE, CENTRAL AMERICA
IMPORTANT NOTICE

Belize Standards are subjected to periodic review; and revision will be published from time to time. If you wish to be notified of the next revision complete and return this label to:

BELIZE BUREAU OF STANDARDS
#53 REGENT STREET
P.O. Box 1647
BELIZE CITY
BELIZE C.A.
BELIZE NATIONAL STANDARDS
SPECIFICATION FOR BOTTLED/PACKAGED WATER

Committee Representation

The preparation of this standard for the Standard Advisory Council established under the Standards Act, was carried out under the supervision of the Bureau’s Technical Committee for Food and Food Related Products, which at the time comprised of the following members:

TECHNICAL COMMITTEE

CHAIRMAN
Dr. Michael Deshield
Belize Agricultural Health Authority (BAHA)

MEMBER
Mrs. Carolyn Arnold
Personal Capacity

Mr. Escander Bedran
Belize Chamber of Commerce & Industry

Ms. Michelle Bennett
Belize Organization for Women and Development (BOWAND)

Ms. Addy Castillo
Save-U

Mr. Normando Luna
Brodies

Miss Angela Reneau
The Co-operative Dept.

Mr. Celestino Rodriguez
ADM Belize Mills Limited

Mrs. Dorla Stuart
Personal Capacity

Ms. Lorraine Thompson
Pan-American Health Organization (PAHO)
Ms. Lillette Barkley Waite  
City Hall
Mr. Gerald Williams  
Public Health Bureau

SECRETARY
Mrs. Helen Reynolds Arana
Belize Bureau of Standards
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FOREWORD

0.1 This Standard has been prepared to set levels of quality and safety for bottled/packaged water imported, produced and traded in Belize.

0.2 Uncarbonated bottled/packaged water is quite possibly the fastest growing segment of the beverage industry. In addition to local production, bottled/packaged water is imported in copious quantities to satisfy the growing demand for this product. This standard sets the guidelines for the production and promotion of mineral water, spring water and purified water.

0.3 This standard will be reviewed and may be revised from time to time to allow for changes in manufacturing technology or consumer preference within Belize.

0.4 In drafting this standard assistance was derived from the following:


CODEX STAN: 227-2001 General Standard for Bottled/Packaged Drinking
0.5 This standard is intended to be compulsory.

1.0 SCOPE

1.1 This standard specifies requirements for the purity, treatment, bacteriological acceptability, packaging and labelling of spring water, mineral water and purified waters that are prepackaged for sale and used as beverages or in foods.

1.2 This standard does not apply to water distributed by the public water supply system, to carbonated water, soda water or to bottled water sold for purposes other than as a beverage.

1.3 This standard should be used in conjunction with the Belize National Code of Hygienic Practice for the Collecting, Processing and Marketing of Packaged Water.

2.0 DEFINITIONS

2.1 Fortified Mineral Water is water derived from any source of potable water, which may be blended/treated/fortified with mineral salts for achieving the requirement of this standard.

2.2 Natural Mineral Water is potable water that is obtained directly from an underground source, which is characterized by containing concentrations of inorganic substances that may confer flavour or that may produce beneficial physiological effects when used regularly. The level of total dissolved material salts shall be greater than 250 ppm.
2.3 **Packaged Water** is fortified mineral water, natural mineral water, purified water or spring water supplied in containers for human consumption and conforms to the requirements of the standard.

2.4 **Potable Water** is water that is suitable for regular use for human consumption.

2.5 **A Public Water Supply System** is a source of potable water operated by a public utility, a company or other body, using distribution through pipelines or tank-wagons.

2.6 **Prepared Waters** do not comply with all the provisions set for waters defined by origin, they may originate from any type of water supply.

2.7 **Purified Water** is potable water derived from a public water supply system, a river, or stream, or a reservoir, with or without the addition of mineral salts or mineral water, that has been treated and purified and conforms to the requirements of this standard.

2.8 **Spring water shall** be water from an underground source from which there is a natural flow to the surface. This water shall be collected only at the spring or through a bore hole trapping the underground formation feeding the spring. Spring water collected with the use of an external force shall be from the same underground stratum as the spring as shown by a measurable hydraulic connection using a hydro-geologically valid method between the bore hole and the natural spring. Such water shall have the same physical and chemical properties before treatment as the water that flows naturally.
to the surface of the earth. If spring water is collected with the use of external force, water must continue to flow naturally to the surface of the earth through the spring’s natural orifice. The level of total dissolved mineral salts shall be less than 500 ppm.

3.0 REQUIREMENTS FOR PROCESSING NATURAL MINERAL WATER AND SPRING WATER

3.1 Natural mineral water or spring water shall be obtained from an underground aquifer that is not polluted by agricultural, domestic, industrial, or other wastes, and may be treated by the following processes:

(a) decantation, to remove solids;

(b) filtration, to remove particles of suspended matters;

(c) aeration with clean, filtered air;

(d) ozonation, using ozonized oxygen (ozone); and

(e) ultra-violet radiation.

3.2 Natural mineral water or fortified mineral water is characterized by containing concentrations of inorganic substances that may confer flavour or that may produce beneficial physiological effects when regularly used.

4.0 REQUIREMENTS FOR PROCESSING PURIFIED WATER

4.1 Purified water shall be decanted, filtered, and clarified using
chemical agents or other approved clarification methods and shall be treated with chlorine or a source of chlorine (with excess chlorine being removed by aeration), or other approved method of disinfecting; or be distilled, and may:

(a) have added fluoride or ozone;

(b) be demineralized, so that inorganic substances are reduced below 10 parts per million;

(c) be treated by reverse osmosis; and

(d) ozonation using ozone oxygen.

5.0 MICROBIOLOGICAL REQUIREMENTS

5.1 Mineral Water, spring water and purified water, when sampled and tested within 12 hours of packaging, as in section 12 and 13, shall contain:

(1) no coliform bacteria in 250 mL at 37°C and 44.5°C;
(2) no faecal Streptococci in 250 mL;
(3) no Pseudomonas aeruginosa in 250 mL;
(4) (i) no more than 100 aerobic bacteria per millilitre at 22°C in 72 hours;
(ii) no more than 20 aerobic bacteria per mL at 37°C in 24 hours;
(5) no Salmonella or Shigella; and
(6) no Vibro Cholerae and V Parahaemolyticus.
6.0 LIMITS ON CERTAIN SUBSTANCES

6.1 Fortified mineral water or natural mineral water or spring water, when sampled as in Section 12 and tested by the methods mentioned in Section 13, shall not contain the substances named in Column 1 of Table 1 in concentration exceeding the limits specified in Column 2 of that Table.

6.2 Purified water, when sampled as in Section 12 and tested by the methods mentioned in Section 13 shall not contain the substance named in Column 1 of Table 2 in concentration exceeding the limits specified in Column 2 of that Table.
### TABLE 1
MAXIMUM CONCENTRATIONS OF CERTAIN SUBSTANCES IN FORTIFIED OR NATURAL MINERAL WATER OR SPRING WATER IN mg/L (ppm)

<table>
<thead>
<tr>
<th>(1) Substance</th>
<th>(2) Maximum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>0.2</td>
</tr>
<tr>
<td>Antimony</td>
<td>0.005</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.05</td>
</tr>
<tr>
<td>Barium</td>
<td>0.7</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.003</td>
</tr>
<tr>
<td>Chromium (VI)</td>
<td>0.05</td>
</tr>
<tr>
<td>Copper</td>
<td>2.0</td>
</tr>
<tr>
<td>Lead</td>
<td>0.01</td>
</tr>
<tr>
<td>Manganese</td>
<td>2.0</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.005</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.001</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.01</td>
</tr>
<tr>
<td>Thallium</td>
<td>0.002</td>
</tr>
<tr>
<td>Zinc</td>
<td>5.0</td>
</tr>
<tr>
<td>Borate</td>
<td>30 calculated as H$_3$BO$_3$</td>
</tr>
<tr>
<td>Fluoride</td>
<td>1.5 calculated as F$^-$</td>
</tr>
<tr>
<td>Chloride</td>
<td>250</td>
</tr>
<tr>
<td>Nitrate</td>
<td>50 calculated as NO$_3^-$</td>
</tr>
<tr>
<td>Sulphide</td>
<td>0.05 calculated as H$_2$S</td>
</tr>
<tr>
<td>Organic matter</td>
<td>3 calculated as O$_2^-$</td>
</tr>
<tr>
<td>Ra228</td>
<td>15pCi/L</td>
</tr>
</tbody>
</table>

1 Any increase in the total viable colony count of the water between 12 hours after packaging and the time of sale shall not be greater than that normally expected.
### TABLE 2
MAXIMUM CONCENTRATIONS OF CERTAIN SUBSTANCES
IN PURIFIED WATER IN mg/L (ppm)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Maximum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium</td>
<td>0.2</td>
</tr>
<tr>
<td>Antimony</td>
<td>0.005</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.05</td>
</tr>
<tr>
<td>Barium</td>
<td>1.0</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.003</td>
</tr>
<tr>
<td>Chromium (VI)</td>
<td>0.005</td>
</tr>
<tr>
<td>Copper</td>
<td>1.0</td>
</tr>
<tr>
<td>Iron</td>
<td>0.4</td>
</tr>
<tr>
<td>Lead</td>
<td>0.01</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.05</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.001</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.02</td>
</tr>
<tr>
<td>Thallium</td>
<td>0.002</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.01</td>
</tr>
<tr>
<td>Borate</td>
<td>30 calculated as $H_3BO_3$</td>
</tr>
<tr>
<td>Fluoride</td>
<td>1.5 calculated as $F^-$</td>
</tr>
<tr>
<td>Organic Matter</td>
<td>3 calculated as $O_2$</td>
</tr>
<tr>
<td>Zinc</td>
<td>3.0</td>
</tr>
<tr>
<td>Chloride</td>
<td>400</td>
</tr>
<tr>
<td>Nitrate</td>
<td>50</td>
</tr>
<tr>
<td>Sulphide</td>
<td>500</td>
</tr>
</tbody>
</table>
CONTAMINANTS

7.1 Natural mineral water, fortified mineral water, spring water and purified water shall not contain:

(a) cyanide ion;

(b) any detectable residues of pesticides, such as:

(i) Organochlorines e.g. endrin, lindane, toxaphene, 2-4-D, 2, 4, 5 – TP;

(ii) Organophosphates e.g. pirimiphos – ethyl, ethoprop, diazinon, Malathion, glyphosate;

(iii) Carbamates e.g. – carbofuran, oxamyl, propoxur;

(iv) Bipyridinium salts e.g. – paraquat, diquat; and

(c) Trihalomethanes and Bromate from ozonation.

7.2 Spring water shall not contain calcium (as CaCO₃), in excess of 150 mg/L.
8.0 REQUIREMENTS FOR HYGIENE IN COLLECTING,
PROCESSING AND MARKETING OF BOTTLED/
PACKAGED WATERS

8.1 The products covered by the provisions of this standard shall
be prepared in accordance with the Belize Code of Hygiene
Practice for the Collecting, Processing and Marketing of Bottle/
Packaged Water.

8.2 Construction and maintenance of Buildings

8.2.1 The room used for bottling water shall be separated
from other areas of the plant by self-closing doors, and
have tight ceiling and floors to prevent contamination
of the product. Conduits for utilities and openings for
conveyors shall be no larger than necessary. Floors
shall be of non-skid impervious materials, graded to
drains, and wall surfaces shall be smooth and
impervious to water.

8.2.2 Ventilation in the bottling rooms and other rooms used
in processing shall be sufficient to prevent condensation.

8.2.3 Washing and sanitizing of containers shall be done in a
closed room next to the bottling room to prevent
contamination after cleaning.

8.2.4 Rooms in which the water is stored, processed,
packaged or bottled and rooms where containers and
closures are stored, washed or sanitized, shall not open
directly into rooms used as offices or into rooms for
staff lockers, lunch, recreation, washing, or toilet
8.3 Sanitation

8.3.1 Potable water shall be used in cleaning and sanitizing containers and equipment. Such water may be derived from a source different to that used for the plant through a separate supply system which has no connection with the pipe system used for the product.

8.3.2 Sanitizing of equipment and containers may be done using steam or chemical agents which have adequate bactericidal action. Residues of chemical agents shall be rinsed from equipment and containers using steam or potable water free from pathogenic bacteria.

8.3.3 Any compressed air used in the plant, which may come in contact with the product, or equipment surfaces in contact with product, or containers, shall be free from oil, dirt, dust, and rust and shall not affect the odour, colour, flavour or bacteriological quality of the product.

8.3.4 The surfaces of all equipment, utensils, pipe-lines and valves that come in contact with the product, and are used in transport, handling, processing and storage of the product, shall be kept clean and sanitized, and shall be regularly inspected and cleaned to maintain sanitary conditions.

8.3.5 Retail containers that are returned for re-use shall be cleaned, washed, and sanitized as in 8.2.3, and inspected, and any defective containers shall be...
removed from production.

8.3.6 After cleaning all equipment, utensils, dis-assembled pipelines and valves and re-usable retail containers shall be drained and protected from contamination until used.

8.3.7 Retailed containers intended for single use and closures shall be stored under sanitary conditions and inspected before use; if necessary they shall be washed and sanitized.

8.4 Equipment

All plant equipment shall be suitably designed for proper use, and all surfaces that will come into contact with the product shall be of non-toxic, non-absorbent materials that will not contaminate the product, and can withstand the cleaning and sanitizing procedures.

Storage tanks that hold the product before, during, or after processing shall be adequately vented and capable of excluding foreign matter.

If it is found during production that the product or the source is contaminated, all production shall cease until the cause of contamination is traced and eliminated, and all equipment, pipelines and valves be cleaned and sanitized before production is resumed.

9.0 PACKAGING

9.1 Mineral water, spring water and purified water shall be packed
in hermetically sealed retail containers/packages, which are suitable for preventing the possible adulteration of the water. Retail containers/packaging materials and closures shall be made of non-toxic materials that will not contaminate the water or affect its flavour, and shall be designed to withstand stresses that may be experienced in bottling, handling transport and storage.

9.2 The packages used for containing water for sale shall be made of glass, polyetheneteraphthalate (PET) or other suitable food grade plastic material.

9.3 At regular intervals, samples of unfilled containers and closures shall be sampled at the point of filling, and tested bacteriologically for coliform organisms. At least four containers and four closures shall be taken, and the packaging process shall be deemed acceptable if:-

(a) no coliform organisms are found; and

(b) not more than 1 aerobic bacterium/ml of container capacity, or not more than 1 bacterium/cm² of container surface is found.

9.4 Retail containers shall be protected during transport by suitable shipping cartons or crates. If crates are reusable they shall be inspected before re-use and cleaned as may be necessary to minimise risk of contamination of the product.

9.5 Closures shall be so designed as to prevent contamination and to show signs of any tampering after filling and sealing the containers.
10.0 LABELLING


10.2 Purified Water

10.2.1 Labels on retail containers of purified water shall include the following information in addition to that required by 10.1:-

(a) the product name, “Purified Water” or “Water”, which may be modified by the words:-

(i) “Distilled”, when treated by distillation;

(ii) “Demineralised”, where the mineral content has been reduced by other means than distillation;

(iii) “Carbonated”, where carbon dioxide has been added;

(b) a statement of the total content of fluoride ion in mg/L or parts per million (ppm);

(c) an indication of the method used in treatment except where the water has been:

(i) Chlorinated, followed by removal of
chlorine and chlorinating agent;

(ii) decanted;

(iii) filtered;

(iv) clarified; or

(v) an ingredient declared on the label has been added.

10.3 Spring Water

10.3.1 Labels on retail containers of spring water shall carry the following information in addition to that required by 10.1:-

(a) the geographical location of the source;

(b) a statement of the total dissolved mineral salt content in mg/L or parts per million (ppm);

(c) the total fluoride content in mg/L or parts per million (ppm); and

(d) a declaration of the addition of any fluoride or of ozone.

10.3.2 Labels on retail containers of spring water may also include:

(a) a statement of the results of chemical analysis
of the water of the source, or as bottled in the container; and

(b) “low sodium”, if the sodium content is less than 20 mg/L (ppm).

10.4 Natural Mineral Water

10.4.1 Labels on retail containers of natural mineral water shall carry the following information in addition to that required by 10.1:

(a) the geographical location of the source;

(b) a statement of the total dissolved mineral salt content in mg/L or parts per million (ppm); and

(c) the total fluoride content in mg/L or part per million (ppm).

10.4.2 Labels on retail containers of natural mineral water may also include:

(a) a statement of the process used in treatment, as in 3.1;

(b) the word “alkaline”, where the content of bicarbonate ion, $\text{HCO}_3^-$, exceeds 600 ppm;

(c) the word “saline” where the content of sodium chloride, $\text{NaCl}$, exceeds 1000 ppm;
10.4.3 Where a source of mineral water has been inspected, sampled, tested and approved by an official agency that is concerned with public health, a statement of such approval may be included on the label.

10.5 Fortified Mineral Water

10.5.1 Labels on retail containers of fortified mineral water may carry the following information in addition to that required by 10.1 and 10.4.1:

(a) the word “alkaline” where the content of bicarbonate ion, HCO$_3^-$, exceeds 600 ppm;

(b) the word “saline” where the content of sodium chloride, NaCl, exceeds 1000 ppm;
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(c) the words “contains fluoride” where the content of fluoride, F, exceeds 1 ppm;

(d) the words “contains iron” where the content of iron, Fe^{2+} & Fe^{3+}, exceeds 5 ppm; and

(e) a statement of the result of chemical analysis of the water as bottled in the container.

10.6 Statements Not to Be Used in Labelling or Advertising

10.6.1 No statement or pictorial device shall be used on a label of a retail container of natural mineral water, fortified mineral water, spring water, or purified water which may mislead the consumer as to its nature, origin, composition, or properties.

10.6.2 Trade or brand names referring to natural mineral water, fortified mineral water or spring water shall not include a name of a location or community unless the source is located within that location or community.

10.6.3 The trade or brand name referring to purified water shall not include a reference to a geographical feature, location or community.

10.6.4 No claims for medicinal effects (whether preventive, nutritive, alleviative, or curative) shall be made in labels or advertisements of natural mineral water, fortified mineral water, spring water or purified water, other than those allowed by 10.4.2 and 10.6.1.
11.0 QUALITY ASSURANCE

11.1 To be eligible for a licence to use the Belize Standard Mark, the manufacturer shall operate as quality assurance system conforming to the general requirements of international standard ISO 9002 - 1994, using adequate staff, sampling procedures, testing equipment and record keeping as approved by the Belize Bureau of Standards.

11.2 An approved quality assurance system may include sampling or test procedures suited to routine or continuous production that differs from those mentioned in section 12 and 13.

11.3 It is recommended that a Hazard Analysis Critical Control Point (HACCP) System be used as part of the quality assurance procedures.

12.0 SAMPLING

12.1 Where a lot or shipment of bottled water is to be examined for conformity to this standard, it is recommended that a sample including a number \((n)\) of retail containers should be taken at random from the total number \((N)\) of retail containers in the lot or shipment in accordance with columns 1, 2 and 3 of Table 3.
TABLE 3

Number of Containers to be Selected for Testing

<table>
<thead>
<tr>
<th>Number in the Lot N</th>
<th>For Bacteriological Tests n</th>
<th>For Chemical Tests n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1300</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>1301 to 3200</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>3201 and Over</td>
<td>9</td>
<td>15</td>
</tr>
</tbody>
</table>

12.2 The contents of retail containers sampled for chemical testing may be combined in a clean dry container, and shall be sealed and marked with identifying information (place, date and time of sampling, marking on the lot, name of sampler).

12.3 Retail containers sampled for bacteriological testing shall be kept separate and each sealed and marked with identifying information.

12.4 The samples shall be delivered and tested as soon as possible after collection, with precaution against contamination or deterioration.

13.0 TEST METHODS

13.1 It is recommended that the following test methods be used in connection with this standard. These methods are based on

13.2 Basic Materials

For the preparation of the medium, use ingredients of uniform quality and chemicals of analytical grade; alternatively, use an equivalent dehydrated complete medium and follow the manufacturer’s instructions.

For making media, use glass-distilled or deionized water free from substances which might inhibit growth under the conditions of the tests.

13.3 Dilutions

For making the dilutions use one of the diluents given in ISO 8199.

13.4 Sampling

Take the samples of water in accordance with the instructions given in Section 12 of this document.

13.5 Colony Count by Inoculation in or a Nutrient Agar Culture Medium

13.5.1 Culture Medium and Diluents

13.5.2 Yeast extract agar
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Tryptone……………………………  6 g
Dehydrated yeast extract………………  3 g
Agar, power or in pellets……………… 12 g
                      (according to gel strength)
Water…………………………….. 1000 ml

Add the ingredients, or the complete dehydrated medium, to the water and dissolve by heating. Adjust the pH if necessary so that after sterilization it will be 7.2 ± 0.2 at 25°C.

Distribute volumes of 15 ml in tubes, bottles or other containers. For storage in large volumes, use containers up to 500 ml capacity. Sterilize in the autoclave at 21°C for 15 min.

For use, melt the medium, allow to cool and maintain it at 45 ± 1°C using the water bath.

13.5.3  **Apparatus and glassware**

Usual microbiological laboratory equipment, and in particular.

13.5.4  **Apparatus for sterilization by steam (autoclave)**

13.5.5  **Incubators** capable of maintaining a temperature of 37 ± 1°C.

13.5.6  **Glass or plastics Petri dishes** with a diameter of 90 mm or 100mm.
13.5.7. **Water-bath**, or similar apparatus capable of maintaining a temperature of 45 ± 1°C.

13.5.8 **Colony-counting** equipment with a method of illumination against a dark background, a hand-lens (optional) and preferably a mechanical or electronic digital counter.

13.5.9 **Procedure**

13.5.10 **Preparation and Inoculation**

Carry out preparation of the sample, make dilutions and inoculation of culture media, in accordance with ISO 8199.

For pour plates, place the test volume in the Petri Dish, add the molten medium and mix carefully by gentle rotation; allow the medium to set. For spread plates, place the test volume on the dry surface of the agar medium and distribute it over the surface with a sterile glass rod; allow the inoculum to be absorbed.

Inoculate at least two plates for each test volume at each temperature.
13.5.11 Incubation and examination

Invert the plates and incubate one set at 37 ± 1°C for 24 ± 1 h or 48 ± 4 h; include the other set of plates at 22 ± 1°C for 72 ± 4 h. Examine the plates as soon as they are removed from the incubators; if this is not possible, store them at 4°C and examine them within 24 h. Reject any plates with confluent growth.

13.5.12 Counting of Colonies

Count the colonies present in or on each plate, if necessary with magnification and the aid of a counting device.

Determine the average number of colonies from the pairs of plates from each dilution, each plate ideally containing between 24 and 300 colonies. For each temperature of incubation, calculate the estimated number of colony-forming units present in 1 ml of the sample.

Alternatively, if more than one pair of dilutions yields counts of between 25 and 300 colonies, then determine the weighted mean according to the formula given in 8.4 of ISO 8199. From these
values estimate for each temperature of incubation the number of colony-forming units present in 1 ml of the sample.

13.5.13 Expression of results

Express the results as the number of colony-forming units per millilitre of the sample for each temperature of incubation.

If there are no colonies in or on the plates inoculated with test volumes of the undiluted sample, express the results as less than 1 colony-forming unit per millilitre. If there are more than 300 colonies on the plates inoculated with the highest dilutions used, express the results as approximate only.

13.6 Detection and Enumeration of Faecal Streptococci

Part 1: Method of enrichment in a liquid medium

13.6.1 Culture media and reagent

Warning – All selective media described in this part of the document contain sodium azide. As this substance is highly toxic and mutagenic, precautions should be taken to
avoid contact with it, especially by the inhalation of fine dust during the preparation of commercially available dehydrated complete media. Azide-containing media should not be mixed with strong inorganic acids, as toxic hydrogen azide (HN₃) may be produced. Solutions containing azide can also form explosive compounds when in contact with metal pipe-work, for example from sinks.

Sodium azide deteriorates with time so that dehydrated media have a limited shelf-life.

13.6.2 Culture media

13.6.3 Azide glucose broth (single strength)

Beef extract 4.5g  
Tryptone 15.0g  
glucose 7.5g  
sodium chloride (NaCl) 7.5g  
sodium azide (NaN₃) 0.2g  
bromocresol purple (ethanolic solution 15g/1) 1 ml  
water up to 1000 ml  

Dissolve the ingredients in the water by boiling.

Adjust the pH so that after sterilization it will be 7.2 ± 0.1 at 25°C.

Distribute in tubes in 10 ml volumes.
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Sterilize the medium for 15 min at 121 ± 1°C.

**NOTE – For the examination of samples of water of more than 1 ml, double strength broth should be prepared in volumes equal to those of the sample to be examined.**

13.6.4 **Bile-aesculin-azide agar**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>tryptone</td>
<td>17.0 g</td>
</tr>
<tr>
<td>peptone</td>
<td>3.0 g</td>
</tr>
<tr>
<td>yeast extract</td>
<td>5.0 g</td>
</tr>
<tr>
<td>ox-bile, dehydrated</td>
<td>10.0 g</td>
</tr>
<tr>
<td>Sodium chloride (NaCl)</td>
<td>5.0 g</td>
</tr>
<tr>
<td>aesculin</td>
<td>1.0 g</td>
</tr>
<tr>
<td>ammonium iron (III) citrate</td>
<td>0.5 g</td>
</tr>
<tr>
<td>sodium azide (NaN₃)</td>
<td>0.15 g</td>
</tr>
<tr>
<td>agar</td>
<td>12 to 20g²</td>
</tr>
<tr>
<td>water</td>
<td>up to 1000 ml</td>
</tr>
</tbody>
</table>

Dissolve the ingredients in the water by boiling.

Adjust the pH so that after sterilization it will be 7.2 ± 0.1 at 25°C.

Distribute in suitable containers.

Sterilize for 15 mins at 121 ± 1°C.

Cool to 50 to 60°C and pour into Petri dishes to a depth of at least 3 mm and allow to set.
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on a cool, horizontal surface.

13.6.5 **Hydrogen peroxide**, solution, 30g/l.

13.6.6 **Apparatus**

Usual microbiological laboratory equipment and:

13.6.7 Incubator, capable of being maintained at 35 ± 1°C or 37 ± 1°C.

13.6.8 Incubator, capable of being maintained at 44 ± 0.5°C.

13.6.9 Autoclave, capable of being maintained at 121 ± 1°C.

13.6.10 **Procedure**

13.6.11 **Enrichment**

Add 1 ml of sample (or diluted sample) to 10 ml of azide glucose broth (13.7.3.1) and mix thoroughly.

2 According to the manufacturer’s instruction

Volumes greater than 1 ml should be added to the same volume of double strength broth.
Standards

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Incubate at 35 ± 1°C or 37 ± 1°C for 22 ± 2 h.

Consider all tubes showing a yellow colour (throughout the whole tube or in the lower part of the tube only) as giving a positive reaction. Reincubate negative tubes for an additional 22 ± 2 h.

After this incubation even a faint colour change to reddish purple should be considered indicative of acid production. In order to improve the interpretation, the colour of the inoculated tube should be compared with the colour of an uninoculated tube.

For quantitative results the most probable number (MPN) method should be used.

13.6.12 Confirmation

Confirm each enrichment culture showing acid production as follows.

Streak a loopful of the resuspended enrichment broth on a plate of bile-aesculin-azide agar (13.6.4).

Incubate at 44 ± 0.5°C for 44 ± 4 h.

Regard all plates showing a tan to black colour in the colonies and/or in the surrounding
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medium as giving a positive reaction.

13.6.13 Catalase test

Place a drop of hydrogen peroxide solution (13.7.4) on colonies on bile-aesculin-azide agar. Evolution of bubbles of oxygen indicates catalase-positive organisms. Only catalase-negative colonies should be considered as faecal streptococci.

NOTE – To eliminate errors due to false negative catalase reactions which may occur on the bile-aesculin-azide agar, the test may be repeated on a subculture on a non-selective medium.

13.7 Detection and Enumeration of Faecal Streptococci

Part 2: Method by Membrane Filtration

13.7.1 Culture media

13.7.2 KF – streptococcus agar (Kenner)

13.7.3 Basal medium

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteose peptone</td>
<td>10.0 g</td>
</tr>
<tr>
<td>yeast extract</td>
<td>10.0 g</td>
</tr>
<tr>
<td>sodium chloride (NaCl)</td>
<td>5.0 g</td>
</tr>
<tr>
<td>sodium glycerophosphate</td>
<td>10.0 g</td>
</tr>
<tr>
<td>maltose</td>
<td>20.0 g</td>
</tr>
<tr>
<td>lactose</td>
<td>1.0 g</td>
</tr>
</tbody>
</table>
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sodium azide (NaN<sub>3</sub>) 0.4 g
bromocresol purple 1 ml
(ethanolic solution 15/gl)
agar 12 to 20 g
water up to 1000 ml

13.7.4 Dissolve the ingredients in the water by heating in a boiling water-bath.

After dissolution is complete, heat for an additional 5 min.

Allow to cool to 50 to 60<sup>0</sup>C.

13.7.5 TTC solution (2, 3, 5 – triphenyltetrazolium chloride water).

Dissolve the dye in the water by stirring.

Sterilize by filtration (0.22 µm).

The solution should be protected against the action of light.

13.7.6 Complete medium

Basal medium (13.7.3) 1000 ml
TTC solution (13.7.5) 10 ml

Add the TTC solution to the basal medium cooled to 50 to 60<sup>0</sup>C. TTC is thermolabile, so that overheating must be avoided.
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Adjust the pH if necessary to 7.2 with a sterile solution of sodium carbonate (100g/l).

Pour the medium into Petri dishes to depth of at least 3 mm and allow to set on a cool, horizontal surface.

Poured plates may be stored in the dark for up 30 days at 4 ± 2°C.

13.7.7 m-enterococcus agar (Slanetz and Barley)

13.7.8 Basal medium

Tryptose 20.0 g
yeast extract 5.0 g
glucose 2.0 g
dipotassium hydrogenorthophosphate (K₂HPO₄) 4.0 g
sodium azide (NaN₃) 0.4 g
agar 15.0 g
water up to 1000 ml

Dissolve the ingredients in the water by heating in a boiling water-bath.

After dissolution is complete, heat for an additional 5 min.

Cool to 50 to 60°C.
13.7.9 **TTC solution** (see 13.7.5)

13.7.10 **Complete medium**

Basal medium (13.7.3) 1000 ml

TTC solution (13.7.5) 10 ml

Add the TTC solution to the basal medium cooled to 50 to 60°C.

Adjust the pH if necessary to 7.2 with a solution of sodium carbonate (100g/l).

Pour 20 ml into Petri dishes of 9 cm diameter (or an equivalent amount in a dish of another size) and allow to set on a cool, horizontal surface.

Poured plates may be stored in the dark for up to 30 days at 4 ± 2°C.

13.7.11 **Bile-aesculin-azide agar**

Tryptone 17.0 g
peptone 3.0 g
yeast extract 5.0 g
ox-bile, dehydrated 10.0 g
sodium chloride 5.0 g
aesculin 1.0 g
ammonium iron (III) citrate 0.5 g
sodium azide (NaN₃) 0.15 g
agar 12 to 20 g²
water up to 1000ml

Dissolve the ingredients in the water by boiling.

Adjust the pH so that after sterilization it will be 7.1 ± 0.1 at 25°C.

Distribute in volumes of 250 ml in screw-capped bottles of 500 ml capacity.

Sterilize for 15 min at 121 ± 1°C.

Cool to 50 to 60°C and pour into Petri dishes to a depth of at least 3 mm and allow to set on a cool, horizontal surface.

13.7.12 Hydrogen peroxide, solution, 30g/l.

13.7.13 Apparatus

Usual microbiological laboratory equipment and:

13.7.14 Membrane filtration apparatus

13.7.15 Sterile membrane filters, with a normal pore size of 4.45 µm.

The quality of membrane filters may vary from brand to brand or even from batch to batch.
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It is therefore advisable to check the quality on a regular basis, according to ISO 7704.

2 According to the manufacturer’s instruction

13.7.16   **Incubator**, capable of being maintained at 35 ± 1°C or 37 ± 1°C.

13.7.17   **Incubator**, capable of being maintained at 44 ± 0.5°C.

13.7.18   **Autoclave**, capable of being maintained at 121 ± 1°C.

13.7.19   **Procedure**

Filter a suitable volume of water.

Place the membrane filter on either KF-streptococcus agar (13.7.2) or m-enterococcus agar (13.7.7).

Incubate the plates at 35 ± 1°C or 37 ± 1°C for 44 ± 4 h.

13.7.20   **Enumeration**

After incubation, count all raised colonies which show a red, maroon or pink colour, either in the centre or throughout the colony. Consider these colonies as presumptive faecal streptococci.
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NOTE – Occasionally bacteria other than group D streptococci may produce this type of colony. Elevation of the incubation temperature to 44 ± 0.5°C, after an initial incubation for 5 ± 1 h at 37 ± 1°C, may prevent the growth of these organisms.

13.7.21 Confirmation

Subculture a representative sample of typical colonies on a plate of bile-aesculin-azide agar (13.6.4).

Incubate at 44 ± 0.5°C for 48 h.

Regard all plates showing a tan to black colour in the colonies and/or in the surrounding medium as given a positive reaction.

13.7.22 Catalase test

Place a drop of hydrogen peroxide solution (13.6.5) on colonies on bile-aesculin-azide agar (13.6.4). Evolution of bubbles of oxygen indicates catalase-positive organisms. Only catalase-negative colonies should be considered as faecal streptococci.

NOTE – To eliminate errors due to false negative catalase reactions which may occur on the bile-aesculin-azide agar, the test may be repeated on a subculture on a non-selective medium.
13.8  Detection and Enumeration of Pseudomonas Aeruginosa

Part 1: Method by Enrichment in Liquid Medium

13.8.1  Dilution fluids

Use one of the diluents given in ISO 8199.

13.8.2  Culture media

It is essential that the culture medium used be suited for the type of water to be analysed and the purpose of the analysis. Use the following medium for the determination of presumed *Pseudomonas aeruginosa*.

13.8.3  Asparagine broth with ethanol

(Drakes’ medium 10)

13.8.4  Composition

<table>
<thead>
<tr>
<th></th>
<th>Single Strength</th>
<th>Concentrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-asparagine</td>
<td>2 g</td>
<td>3.2 g</td>
</tr>
<tr>
<td>L-proline</td>
<td>1 g</td>
<td>1.6 g</td>
</tr>
<tr>
<td>Anhydrous disportassium hydrogen phosphate</td>
<td>1 g</td>
<td>1.6 g</td>
</tr>
<tr>
<td>Magnesium sulfate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heptahydrate</td>
<td>0.5 g</td>
<td>0.8 g</td>
</tr>
<tr>
<td>Anhydrous potassium sulfate</td>
<td>10 g</td>
<td>16 g</td>
</tr>
<tr>
<td>Ethanol</td>
<td>25 ml</td>
<td>40 ml</td>
</tr>
<tr>
<td>Water</td>
<td>to 1000 ml</td>
<td>to 1000 ml</td>
</tr>
</tbody>
</table>
13.8.5 **Preparation**

Dissolve all the constituents in the water and proceed in either of the following ways.

Add the ethanol and distribute in sterile screw-capped bottles. Tighten the caps on the bottles to the point where the seal in the lid just begins to engage with the lip of the bottle. Autoclave at 121°C ± 1°C for 15 min. Tighten the caps on each bottle, immediately after removal from the autoclave, to prevent loss of ethanol by evaporation do not use poly-propylene caps without seals.

Alternatively, sterilize the ethanol by filtration through a cellulose acetate or nitrate membrane of average pore size 0.22 µm and then add it aseptically to the medium after autoclaving and cooling. Adjust the pH 7.2 ± 0.2. Store in screw-capped bottles in the dark at room temperature for up to a maximum of 3 months.

13.8.6 **Confirmatory medium**

13.8.7 **Milk agar with cetrimide**

13.8.8 **Composition**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skim milk powder</td>
<td>100 g</td>
</tr>
<tr>
<td>Yeast extract broth (see below)</td>
<td>250 ml</td>
</tr>
<tr>
<td>Agar</td>
<td>15 g</td>
</tr>
</tbody>
</table>
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Hexadecyltrimethlammonium bromide (cetrimide) 0.3 g
Water to 750 ml

Yeast extract broth:
Bacteriological yeast extract 3 g
Bacteriological peptone 10 g
Sodium chloride 5 g
Water up to 1000 ml

13.8.9 Preparation of medium

Prepare the yeast extract broth by dissolving all the constituents in the distilled water by steaming. Adjust the pH to between 7.2 and 7.4. Sterilize by autoclaving at 121°C ± 1°C for 20 min.

Mix the sterile yeast extract broth, cetrimide and agar, and steam this mixture until the agar has dissolved. In a separate glass container, add the skim milk powder to the distilled water and mix, preferably with a magnetic stirrer, until the powder has completely dissolved. Autoclave both solutions separately at 121°C ± 1°C for 5 min. To prevent caramelization of the milk, take care to follow these instructions. Cool the solutions to 50°C to 55°C, aseptically add the milk solution to the agar medium and mix well.
13.8.10 Preparation of agar plates

Distribute 15 ml portions of the final agar medium into sterile Petri dishes (see 13.8.1). Allow the medium to solidify in the plates. Dry the plates. Store at 4°C ± 1°C for a maximum of 1 month.

13.8.11 Apparatus and glassware

Usual microbiological laboratory equipment, and:

13.8.12 Glassware

All glassware shall be sterilized at 170°C ± 5°C for 1 h in a dry oven or at 121°C ± 1°C for 15 min in an autoclave before use.

Use sterile Petri dishes with a diameter of either 90 mm or 100 mm.

13.8.13 Incubators, capable of being maintained at 37°C ± 1°C and 42°C ± 5°C.

13.8.14 Ultraviolet lamp emitting light of wavelength 360 nm ± 20 nm.

NOTE – Sterile square plastics Repli dishes may be used as an alternative to glass bottles or tubes when the volume of sample or dilution of sample under examinations is 1 ml or less.
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Plastics Repli dishes are square divided into 25 identical compartments which can hold 1 ml of medium together with 1 ml of sample or sample dilution. The use of these dishes allows five replicates from each of five serial dilutions of the sample to be tested simultaneously. The dishes can be obtained presterilized.

13.8.15 Procedure

Carry out the preparation of dilutions and the most probable number technique in accordance with ISO 8199 and ISO 6887.

13.8.16 Dilutions

Prepare 10-fold serial dilutions of the sample in a pre-sterilized diluent (13.3) in accordance with ISO 8199.

13.8.17 Inoculation

Add 1 ml from each sample, or dilution of the sample, to 4 ml portions of the medium (13.8.1) in bottles or tubes. If larger portions of the sample (10 ml, 50 ml) or Repli dishes are to be used, add the sample to an equal volume of the concentrated medium.

13.8.18 Incubation

Incubate the containers at 37°C ± 1°C for 48
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h. Examine for growth and fluorescence under an ultraviolet lamp in either a darkened room or apparatus designed to exclude visible light.

NOTE – Incubation at 38°C to 39°C may be used if the water samples are likely to contain large numbers of other bacteria. The possible adverse effect of this procedure on the numbers of organisms recovered should be considered.

13.8.19 Confirmation

13.8.20 Milk agar

Subculture a loopful of culture medium from each container showing either fluorescence or growth onto a milk agar plate (13.7.4.1). Incubate the milk agar plates at 42°C ± 0.5°C for 24 h. Examine the plates for growth, pigment production, and casein hydrolysis (cleaning of the milk medium around the colonies) and record the reactions as shown in table 1.
TABLE 1

_Pseudomonas aeruginosa_ reactions

<table>
<thead>
<tr>
<th>Reaction mode</th>
<th>Typical</th>
<th>Atypical*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Casein hydrolysis</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Growth at 42°C±0.5°C</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Fluorescence (under UV irradiation only)</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Pyocyanine (blue-green) pigment</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

*+ = positive reaction
*- = negative reaction

*) Other bacteria can sometimes give atypical reactions (2) and (3). In each instance the procedure described in 13.8.22 should be followed.

NOTE – Pigment production in the culture medium may be inhibited by the growth of bacteria other than _Pseudomonas aeruginosa_. In such cases, the milk agar plates should be exposed to daylight at room temperature before they are examined for pigment production.

13.8.21 **Enumeration**

All containers of the culture medium exhibiting either growth or fluorescence, which yield colonies (after subculture on milk agar plates) that produce either reaction (1) or (2) (see table 1 in 13.8.20) shall be regarded as positive for the presence of _Pseudomonas aeruginosa_.

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NOTE – Others identified as non-pigmented or atypical Pseudomonas aeruginosa by the procedure in 13.8.22 may be included also.

13.8.22 Non-pigmented strains

NOTE – as a further step, it is possible to obtain confirmation of non-pigmented strains. If required, a suitable method is to take a loopful of culture medium and transfer it to a milk agar plate. The plate is incubated at a temperature of 37°C ± 1°C for 24 h. A well-isolated colony is selected and final confirmation is obtained by testing for certain biochemical characteristics. Commercially available identification kits may be used.

13.8.23 Expression of results

From the number of containers of culture by reference to statistical tables in ISO 8199 the most probable number of Pseudomonas aeruginosa present in 100 ml of water sample in accordance with ISO 8199.

Alternatively, express the results qualitatively e.g. by stating the Pseudomonas aeruginosa were present or absent in 100 ml of water sample.

Where larger volumes are examined, e.g. bottled waters, express the results qualitatively specifying the appropriate volume.
13.9 Detection and Enumeration of Pseudomonas aeruginosa

Part 2: Membrane Filtration Method

13.9.1 Drake medium 19

13.9.2 Confirmatory medium

13.9.3 Milk agar with cetrimide

Refer to section 13.8.7.

13.9.4 Preparation of medium

Prepare the yeast extract broth by dissolving all the constituents in the distilled water by steaming. Adjust the pH between 7.2 and 7.4. Sterilize by autoclaving 121°C ± 1°C for 20 min.

Mix the sterile yeast extract, cetrimide and agar, and steam this mixture until the agar has dissolved. In a separate glass container, add the skim milk powder to the distilled water and mix, preferably with a magnetic stirrer, until the powder has completely dissolved. Autoclave both solutions separately at 121°C ± 1°C for 5 min. To prevent caramelization of the milk, take care to follow these instructions. Cool the solution to 50°C to 55°C, aseptically add the milk solution to the agar medium and mix well.
Standards

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13.9.5 Preparation of agar plates

Distribute 15 ml portions of the final agar medium into sterile Petri dishes. Allow the medium to solidify in the plates. Store at 4°C ± 1°C for a maximum of one month.

13.9.6 Apparatus and glassware

Usual microbiological laboratory equipment, and:

13.9.7 Glassware

All glassware shall be sterilized at 170°C ± 5°C for 1 h in a dry oven or at 121°C ± 1°C for 15 min in an autoclave before use. Use sterile Petri dishes with a diameter of either 90 mm or 100 mm.

13.9.8 Incubators, capable of being maintained at 37°C ± 1°C and 42°C ± 0.5°C.

13.9.9 Ultraviolet lamp emitting light of wavelength 360 nm ± 20 nm.

13.9.10 Dilutions

Prepare 10-fold serial dilutions of the sample in a pre-sterilized diluent.

13.9.11 Membrane Filtration
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Filter volumes of the water sample or portions of the dilution through a sterile membrane filter with a rated pore diameter equivalent to 0.45 µm. In accordance with ISO 8199, place each membrane on a sterile filter pad saturated with Drake’s medium 19, ensuring that no air is trapped beneath.

NOTE – *Excess Drake’s medium 19 should be removed from the Petri dish prior to placing the membrane on the filter pad.*

13.9.12 Incubation of membranes

Incubate the Petri dishes at 37°C ± 1°C for 48 h in containers that prevent moisture loss. Examine the membrane for blue-green or greenish-brown colonies, or colonies which exhibit fluorescence under exposure to ultraviolet light in either a darkened room or apparatus which exclude visible light.

NOTE – *Incubation at 42°C ± 0.5°C for up to 48 h may be used if the water samples are likely to contain large numbers of other aquatic bacteria.*

*The possible adverse effect of this procedure on the number of organisms recovered should be considered.*

13.9.13 Confirmation
13.9.14 **Milk agar**

Subculture the characteristic colonies from 13.9.12 onto the surface of milk agar plates. Incubate the milk agar plates at 42°C ± 0.5°C for 24 h. Examine the plates for growth, pigment production and casein hydrolysis cleaning of the milk medium around the colonies and record the reactions as shown in table 1.

13.9.15 **Enumeration**

Count as confirmed *Pseudomonas aeruginosa* all colonies which exhibit the reaction (1) and (2) (see table 1 13.8.20). Count as presumed *Pseudomonas aeruginosa* all colonies which show, after incubation, the following characteristics:

Blue-green or greenish-brown coloration or exhibit fluorescence when exposed to ultraviolet light.

**NOTE –** Other identified as non-pigment or atypical *Pseudomonas aeruginosa* by the procedure in 13.8.22 may be included also.

13.9.16 **Non-pigmented strains**

**NOTE –** As a further step, it is possible to obtain confirmation of non-pigmented strains. If required, a suitable method is to take a loopful of culture medium and transfer it to milk agar plate. The
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Plate is incubated at a temperature of 37°C ± 1°C for 24 h. A well-isolated colony is selected and final confirmation is obtained by testing for certain biochemical characteristics. Commercial available identification kits may be used.

13.9.17 Expression of results

From the number of characteristic colonies counted on the membranes, and taking account of the confirmatory tests performed, calculate the number of confirmed Pseudomonas aeruginosa present in 100 ml of water sample in accordance with ISO 8199.

Alternatively, express the result qualitatively by stating that Pseudomonas aeruginosa were present or absent in 100 ml of water sample.

13.10 Detection and Enumeration of Coliform Organisms, Thermotolerant Coliform Organisms and Presumptive Escherichia COLI

13.10.1 Part 1 Membrane filtration method

13.10.2 Isolation media

Use one or more of the following culture media either in solid form with agar or as a broth for saturating absorbent pads.

13.10.3 Lactose TTC agar with Tergitol 7®
13.10.4  Lactose agar with Tergitol 7<sup>®</sup>
13.10.5  Membrane enriched Teepol broth<sup>®</sup>
13.10.6  Membrane lauryl sulfate broth<sup>®</sup>
13.10.7  Endo medium
13.10.8  LES Endo agar
13.10.9  mFC medium
13.10.10  Confirmatory media

Use one or more of the following.

13.10.11  Medium for gas production
Lactose peptone water.

13.10.12  Medium for Indole production
Tryptone water.

13.10.13  Single Tube medium for both gas and indole production
Lauryl tryptose mannitol broth with tryptophan.

13.10.14  Reagents

13.10.15  Kovacs' reagent for Indole
13.10.16 Oxidase reagent for the oxidadase test.

13.10.17 **Apparatus**

Usual microbiological laboratory equipment, including:

13.10.18 **Hot-air oven for dry-heat sterilization and an autoclave**

Apart from apparatus supplied sterile, glassware and other equipment shall be sterilized according to the instructions given in ISO 8199.

13.10.19 **Incubator or water bath**, thermostatically controlled at 30°C ± 0.5°C.

13.10.20 **Incubator or water bath**, thermostatically controlled at either 44°C ± 0.25°C or 44.5°C ± 0.25°C.

13.10.21 **pH meter**

13.10.22 **Apparatus for membrane filtration.**

13.10.23 Membrane filters, usually about 47 mm or 50 mm in diameter, with filtration characteristics equivalent to a rated nominal pore diameter of 0.45 µm. If not obtained sterile, they shall be sterilized according to the manufacturer’s instructions.
13.10.24 Forceps, for handling membranes

13.10.25 Procedure

13.10.26 Preparation of the sample, filtration and inoculation of media

For preparation of the sample, making dilutions, filtration and inoculation of isolation media, follow the instructions given in ISO 8199 and ISO 6887.

13.10.27 For coliform organisms, filter the required volume of the sample, or a dilution of it, through one membrane. Place on the medium chosen, ensuring that no air is trapped underneath it.

13.10.28 For thermotolerant coliform organisms, filter the required volume of the sample, or a dilution of it, through one membrane. Place on the medium chosen, ensuring that no air is trapped underneath it.

NOTE – the volume of sample filtered should be the same as in 1310.27.

13.10.29 Incubation of membranes

13.10.30 For coliform organisms, incubate the membrane for 18 h to 24 h at either 35°C ± 0.5°C or 37°C ± 0.5°C.
For thermological coliform organisms, incubate the membrane for 18 h to 24 h at either 44°C ± 0.25°C or 44.5°C ± 0.25°C.

NOTES – The same medium can generally be used for both coliform organisms and thermotolerant coliform organisms, but mFC medium should be used only at 44°C, and Endo and LES Endo media should be used at 35°C or 37°C.

A preliminary period at a lower temperature such as 30°C or the first 4 h of incubation is recommended to resuscitate stressed organisms, especially in the examination of drinking water.

Examine the membranes and count as presumptive coliform organisms all colonies, irrespective of size, which show, after incubation at 35°C or 37°C, the following characteristics:

- On lactose TTC agar with Tergitol (13.10.3): a yellow, orange or brick red colouration with a yellow central halo in the medium under the membrane.

- On lactose agar with Tergitol 7 (13.10.4): a yellow central halo in the
medium under the membrane.

- On membrane enrich Teepol broth (13.10.5): a yellow colour extend on to the membrane.

- On membrane lauryl sulfate broth (13.10.6): a yellow low colour extending on to the membrane.

- On Endo agar or broth (13.10.7): a dark red colour with a golden-green metallic sheen.

- On LES Endo agar (13.10.8): a dark red colour with a golden-green metallic sheen.

13.10.34 **Thermotolerant coliform organisms**

Regard as presumptive thermotolerant coliform organisms all colonies which show, after incubation at 44°C, the same colonial characteristics as those described in 13.10.9 with mFC medium (13.27.11), such colonies are blue in colour.

13.10.35 **Confirmatory tests**

It is important to note that the counts of colonies on membranes at 30°C or 37°C and at 44°C are only presumptive coliform results. Since
gas production is not detected, there is also an additional presumption that the organisms forming colonies can also produce gas from lactose. For the examination of raw or partly-treated waters, this may be sufficient, but for potable supplies and other circumstances, it is important to carry out confirmatory tests, preferably on pure subcultures.

13.10.36  **Coliform organisms**

To confirm the membrane results, subculture each colony (13.10.33) or a representative number of them to tubes of lactose peptone water (13.10.34) and incubate at 35°C or 37°C for 48 h: gas production within this period confirms the presence of coliform organisms.

13.10.37  **Thermotolerant coliform organisms and presumptive** *E. coli*

For thermotolerant coliform organisms and presumptive *E. coli* on membranes, whether incubated at 44°C or at 35°C, subculture each colony (13.35.2) or a representative number of them, to tubes of lactose peptone water and tryptone water and incubate at 44°C for 24 h. Gas production in lactose peptone water confirms the presence of thermotolerant coliform organisms, and development of a red colour at the surface of the tryptone water culture after the addition of 0.2 ml to 0.3 ml
of Kovacs’ reagent (13.10.15) confirms the presence of presumptive *E. coli*.

**NOTE** – The use of lauryl tryptone mannitol broth with tryptophan allows both gas and indole production to be demonstrated in a single tube.

The detection of presumptive *E. coli* is regarded as satisfactory evidence of faecal pollution. However, further tests for the confirmation of *E. coli* may be carried out if considered necessary (13.10.38).

When subculturing from colonies on the membrane to tubes of confirmatory media, it is preferable to subculture also to a plate of nutrient agar medium for the oxidase test.

### 13.10.38 Oxidase test

Some bacteria found in water may conform to the definition of coliform organisms in most respect, but are able to produce gas from lactose only at temperature below 37°C. They therefore give negative results in the standard confirmatory tests for coliform organisms and their presence in water is not usually regarded as significant. *Aeromonas* species, which occur naturally in water, have an optimum growth temperature in the range 30°C to 35°C but may nevertheless produce acid and gas from lactose at 37°C. They are distinguishable from the...
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coliform group by a positive oxidase reaction.

13.10.39 Carry out the oxidase test with pure subcultures of lactose-fermenting organisms, grown on nutrient agar medium, as follows:

- place 2 to 3 drops of freshly prepared oxidase reagent (13.10.16) on a filter paper in a Petri dish;

- with a glass rod, swab stick or platinum (not nichrome) wire loop, smear some of the growth on the prepared filter paper (see note).

- Regard the appearance of a deep blue-purple colour within 10 s as a positive reaction.

NOTE – On each occasion that the oxidase reagent is used, control tests should be conducted with cultures of an organism known to give a positive reaction (Pseudomonas aeruginosa) and a negative reaction (E. coli).

13.10.40 Expression of results

From the numbers of characteristic colonies counted on the membranes and taking account of the results of the confirmatory tests performed, calculate the numbers of coliform organisms, thermotolerant coliform organisms and presumptive *E. coli* present in 100 ml of
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the sample in accordance with ISO 8199, 13.36, according to the following equation:

\[
C = \frac{A \times N \times V_s \times F}{B \times V_t}
\]

Where

- \(C\) is the confirmed colony count per 100 ml;
- \(A\) is the number of colonies actually confirmed;
- \(B\) is the number of colonies subcultured for confirmation;
- \(N\) is the number of characteristic colonies on the membrane (13.10.33 and 13.10.34);
- \(V_t\) is the test volume of water sample filtered (13.10.27 and 13.10.28);
- \(V_s\) is the reference volume for expression of results (100 ml); and
- \(F\) is the dilution factor.

13.11 Detection and Enumeration of coliform organisms, thermotolerant coliform organisms and presumptive *escherichia coli*.

13.11.1 Part 2 Multiple tube (most probable
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13.11.2 Isolation media

Use one of the following culture media.

13.11.3 Lactose broth

13.11.4 MacConkey broth

13.11.5 Improved formate lactose glutamate medium

13.11.6 Lauryl tryptose (lactose) broth

13.11.7 Confirmatory media

Use one or more of the following:

13.11.8 Media for gas production

13.11.9 Brilliant-green lactose (bile) broth

13.11.10 EC medium

13.11.11 Medium for indole production

Tryptone water.

13.11.12 Single-tube medium for both gas and indole production

Lauryl tryptose mannitol broth with
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tryptophan.

13.11.13 Reagents

13.11.14 Kovacs’ reagent for indole

13.11.15 Oxidase reagent for the oxidase test

13.11.16 Apparatus

Usual microbiological laboratory equipment, including

13.11.17 Hot-air oven for dry-heat sterilization and an autoclave

Apart from apparatus supplied sterile, glassware and other equipment shall be sterilized according to the instruction given in ISO 8199.

13.11.18 Incubator or water bath, thermostatically controlled at either 35°C ± 0.5°C or 37°C ± 0.5°C.

13.11.19 Incubator or water bath, thermostatically controlled at either 44°C ± 0.25°C or 44.5°C ± 0.25°C.

13.11.20 pH meter.

13.11.21 Procedure
13.11.22  **Preparation of the sample and inoculation of media**

For preparation of the sample, making dilutions and inoculation of isolation medium with test portions, follow the instructions given in ISO 8199. For test portions of volume greater than 5 ml, use tubes containing “double strength” isolation medium.

13.11.23  **Incubation of tubes**

Incubate the inoculated tubes for 48 h at either 35°C ± 0.5°C or 37°C ± 0.5°C.

13.11.24  **Examination of tubes**

Examine the tube-cultures after incubation for 18 h to 24 h and regard as positive reactions those which show turbidity due to bacterial growth and gas formation in the inner inverted (Durham) tubes, together with acid production if the isolation medium contains a pH indicator. Reincubate those tubes, which do not show any or all of these changes and examine them again for positive reactions after 48 h.

13.11.25  **Confirmatory Tests**

It is important to note that positive reactions in tubes of isolation medium are only presumptive coliform results. It is therefore
important to carry out confirmatory tests, preferably on pure subcultures.

13.11.26 **Subculture, incubation and examination**

Subculture from each tube of isolation medium giving a positive result into one or more tubes of the confirmatory media (13.11.7) for gas and indole production.

**NOTE 1** – *if the least inhibitory medium (lactose broth) is used for isolation, subculture to either or the two more selective confirmatory media [brilliant-green lactose (bile) broth or EC broth] for confirmation is recommended.*

13.11.27 **Coliform organisms**

To confirm the presence of coliform organisms, incubate one tube of brilliant-green lactose (bile) broth (13.11.9) at either 35°C or 37°C, and examine for gas production within 48 h.

13.11.28 **Thermotolerant coliform organisms and presumptive E. coli**

To confirm the presence of thermotolerant coliform organisms, incubate another tube of EC medium (13.11.10) at 44°C for 24 h, and examine for gas production.

To confirm the presence of presumptive *E. coli*, incubate a tube of tryptone water (13.11.11) for indole formation at 44°C for 24 h. Then
add 0.2 ml to 0.3 ml of Kovacs’ reagent (13.11.14) to the tube of tryptone water development of a red colour after gentle agitation denotes the presence of indole.

**NOTE 2** - The use of lauryl tryptose mannitol broth with tryptophan allows both gas and indole production by presumptive E. coli to be demonstrated in a single tube.

**NOTE 3** – The detection of presumptive E. coli is regarded as satisfactory evidence of faecal pollution. However, further tests for the confirmation of E. coli may be carried out if considered necessary (13.11.30).

**NOTE 4** – When subculturing from colonies on the membrane to tubes of confirmatory media, it is preferable to subculture also to a plate of nutrient agar medium for the oxidase test.

13.11.29 **Oxidase test** (Refer to section 13.10.38)

13.11.30 **Expression of results**

From the number of tubes of isolation medium and confirmatory tests giving positive reactions, calculate by reference to the statistical tables in ISO 8199, the most probable numbers of coliform organisms, thermotolerant coliform organisms and presumptive E. coli in 100 ml of the sample.

13.11.31 It is recommended that the references listed
in Appendix 1 be used as guides for the chemical and physical analyses of bottled water.

14.0 CONFORMITY

14.1 The lot or shipment sampled as in 12.1 shall be deemed to conform to this standard if the test results satisfy the requirements of Section 5, 6, and 7, and if inspection shows that the labelling satisfies the requirements of Section 10, and the average net contents of the containers is found to be not less than that declared on the label.

14.2 Bottled water shall be deemed to conform this standard if produced under an approved quality assurance system. The quality assurance system must provide test results obtained from routine samples taken during production. The test results must satisfy the requirements specified for the relevant characteristics and there must be adequate evidence on file from testing in plant or by certification by suppliers that the material used (for example: containers, closures, cleaning and sanitizing chemicals and chlorinating chemicals, carbon dioxide) meet the other requirements.
APPENDIX I

RECOMMENDED METHODS OF TEST FOR BOTTLED WATERS


Chapter 13 of this publication covers the analysis of water, and includes procedures for the following components or other characteristics:-

PH; acidity; alkalinity; solids in water;

Solids in solution; nitrate ion*; chloride ion*;

Fluoride ion; carbonate and bicarbonate ions;

Silicate ion, calcium, barium; potassium*; sulphate ion; manganese; iodine; arsenic; bromide; lead.

Atomic absorption spectrophotometry is used for the estimation of:-

Cadmium; chromium; copper; iron; lead; magnesium; Manganese; mercury; silver and zinc.


6. Official Methods MFO-9 and MFO-15 for the microbiological examination of mineral water, and of water in sealed containers (other than mineral water), Health Protection Branch, Canada.