

BELIZE STANDARD

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BELIZE STANDARD FOR DEFINITION OF TERMS USED IN THE BIODEGRADABLE PRODUCTS INDUSTRY

**BBS
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BELIZE STANDARD
DEFINITION OF TERMS USED IN THE BIODEGRADABLE PRODUCTS
INDUSTRY

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The preparation of this standard for the Standards Advisory Council established under the Standards Act 1992 was carried out under the supervision of the Belize Bureau of Standards' Biodegradable Products Technical Committee, which at the time comprised the following members:

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BELIZE STANDARD
DEFINITION OF TERMS USED IN THE BIODEGRADABLE PRODUCTS
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0 FOREWORD

- 01** This standard contains terms that are common and internationally recognized for use and interpretation in the biodegradable products industry whether imported, distributed, manufactured or sold in Belize. The terminology is specific to biodegradable products. The purpose of this standard is to standardize and harmonize the meaning of terms as related to the biodegradable products industry.
- 02** The amendments to the Pollution Regulation is aimed at reducing and preventing pollution to the Belizean environment from plastics and styrofoam through the regulation of importation, production, manufacturing, use and sale of polyethylene and polystyrene products, commonly known as plastic and styrofoam. Pollution from plastics impacts the marine and terrestrial environment and has become a major problem in Belize.
- 03** This standard is intended to be established as a compulsory standard to support the interpretation of specification and labelling standards for biodegradable products in Belize as well as enforcement of the Regulation primarily through recognized independent third-party certification.
- 04** Improvement in awareness and education on the proper use and waste management of all plastics including bio-degradable plastics should be supported and promoted.
- 05** In preparing this draft, assistance was received from the following documents:
- a) EN 13432: 2000 – Requirements for packaging recoverable through composting and biodegradation – test scheme and evaluation criteria for the final acceptance of packaging.
 - b) ASTM D6400-19 – Standard Specification for Compostable Plastics.
 - c) ASTM D6868-19 – Standard Specification for Labeling of End Items that Incorporate Plastics and Polymers as Coatings or Additives with Paper and Other Substrates Designed to be Aerobically Composted in Municipal or Industrial Facilities

1 SCOPE

This standard is a glossary which defines terms related plastics and biodegradable products.

2 DEFINITION OF TERMS

For the purpose of this standard, the following terms shall apply:

- 21 Barrier bags and plastics** means any plastic that is an integral part of the packaging in which goods are sealed for sale and are used for packaging unpacked perishable foods.
- 22 Biobased content** means the amount of biobased carbon in the material or product as a percent of the weight (mass) of the total organic carbon in the product.
- 23 Biobased plastic** means plastics made in whole or partially from renewable biological resources.
- 24 Biodegradability** means the ability of a substance to be broken down into simpler substances by living things especially by microorganism.
- 25 Biodegradable** means capable of undergoing decomposition into carbon dioxide, methane, water, inorganic compounds, or biomass and the predominant mechanism is the enzyme action of microorganisms that can be measured by standardized tests, in a specified period of time, reflecting available disposal condition.
- 26 Biodegradable material** means a degradable material in which degradation results from the action of naturally occurring microorganisms such as bacteria, fungi and algae.
- 27 Biobased Polymer** means polymers made in whole or partially from renewable biological resources such as polysaccharides (e.g. cellulose, lignin, chitin), proteins (e.g. gelatin, casein, wheat gluten, silk, wool), lipids (e.g. plant oils, animal fats).
- 28 Biodegradable plastic** means a degradable plastic in which the degradation results from the action of naturally occurring microorganisms such as bacteria, fungi, and algae.
- 29 Commercially Biodegradable Plastic** means any plastic that has a biobased content that is greater than fifty percent (50%), and capable of being biodegraded within three hundred and sixty-five (365) days to >+90% carbon dioxide (and methane for anaerobic biodegradation), into a non-toxic product by the action of living organisms, as per specified testing conditions.
- 210 Commercially Compostable Plastic** means plastic that undergoes degradation by undergoing biological decomposition in a compost site, such that the plastic is not distinguishable or leaves no toxic residue, and breaks down into carbon dioxide, water, inorganic compounds and biomass, at a rate consistent with known compostable materials (e.g. cellulose).
- 211 Composting** means a managed process that controls the biological decomposition and transformation of biodegradable materials into a humus-like substance called compost: the aerobic mesophilic and thermophilic degradation of organic matter to make compost; the transformation of biologically

decomposable material through a controlled process of bio oxidation that proceed through mesophilic and thermophilic phases and results in the production of carbon dioxide, water, minerals, and stabilized organic matter (compost or humus).

- 2.12 Compostable plastic** means a plastic that undergoes degradation by biological processes during composting to yield CO₂, water, inorganic compounds, and biomass at a rate consistent with other known compostable materials and leave no visible, distinguishable or toxic residue.
- 2.13 Defect** means an imperfection or abnormality that impairs quality, function, or utility.
- 2.14 Degradable plastic** means a plastic designed to undergo a significant change in its chemical structure under one or combined environmental conditions (bacterial (biodegradable), thermal (oxidative), or ultraviolet (photodegradable)), resulting in a loss of some properties that may vary as measured by standard test methods appropriate to the plastic and the application in a period of time that determines its classification.
- 2.15 Degradable** in relation to a material means with respect to specific environmental conditions if it undergoes degradation to a specific extent within a given time measured by a specific standard test method; and is broken down by bacterial (biodegradable), thermal (oxidative), ultraviolet (photodegradable) action or other environmental action.
- 2.16 Degradation** means an irreversible process leading to a significant change of the structure of a material, typically characterized by a loss of properties (e.g. integrity, molecular weight, structure or mechanical strength) and/or fragmentation. Degradation is affected by environmental conditions and proceeds over a period of time comprising one or more steps.
- 2.17 Disintegration** means physical breakdown of a material into very small fragments. (ISO)
- 2.18 Environmental degradation of a plastic** means an abiotic degradation process or both that occurs in a given environment and includes photodegradation, oxidation, hydrolysis, and biodegradation. Living organisms effect biotic degradation processes and abiotic degradation processes are nonbiological in nature.
- 2.19 Innocuous material** means any material not harmful to flora and fauna and the environment
- 2.20 Manufacturing** is the making of goods by hand or by machine that upon completion, the business sells to a customer. Items used in manufacture may be raw materials or component parts of a larger product. The manufacturing usually happens on a large-scale production line of machinery and skilled labor.
- 2.21 Plastic** means a material that contains as an essential ingredient one or more organic polymeric substances of large molecular weight, is solid in its finished

state, and, at some stage in its manufacture or processing into finished articles, can be shaped by flow.

NOTE: plastic includes both biobased and non-biobased materials.

- 222** **Polymer** means a substance consisting of molecules characterized by the repetition (neglecting ends, branch junctions, other minor irregularities) of one or more types of monomeric units.
- 223** **Single use plastic product** means plastic products that are designed or intended for one (1) time use before disposal.

END OF DOCUMENT