



Ministry of Environment and Energy

Male'

### **Standard for classification of Biodegradable Plastic Bags 2012**

1. Introduction                      This is the standard for classifying biodegradable plastic bags in the Maldives. And should be followed by those who wish to acquire permits for importing biodegradable plastic bags into the Maldives.
2. Purpose                              The purpose of compiling these standards is to harmonize the policies implemented for the issue of permits to both importers and local producers of biodegradable bags.
3. Standards for classifying biodegradable bags
  - (a) The certificate of endorsement for biodegradable plastic bags would be issued for those bags which qualifies the following standards.
  - (b)
    - (1) The bag shall meet the standard of EN13432:2000 "Requirements for packaging recoverable through composting and biodegradation – Test scheme and evaluation criteria for the final acceptance of packaging".
    - (2) The measure of heavy-metals in the materials of the bag shall not exceed the standards of EN13432:2000 "Requirements for packaging recoverable through composting and biodegradation – Test scheme and evaluation criteria for the final acceptance of packaging".
    - (3) 90 (ninety) percent of the materials shall deteriorate and decompose on its own within a maximum period of 1 (one) year.
    - (4) A minimum of 50 (fifty) percent of materials shall be of organic material.
    - (5) Any type of matter that is dangerous to the environment shall not be disposed into the environment during the decomposition.
    - (6) Non-biodegradable fraction of the material shall not exceed 5 (five) percent.
    - (7) Bags intended for food packaging shall not contain any material that would negatively affect the food.
    - (8) If any of the additives used in the production (such as: polymers; organic additives; inorganic fillers; stabilizers; or pro-oxidants) are declared dangerous to the environment of Maldives, by the government or by an International Convention to which Maldives is a party to, then the measure

of such additives shall be less than 0.1 (Zero point one) percent.

- (9) The conditions for decomposition; the period for decomposition (indicating service life and storage life); the trade names or the chemical names of the additives; the name or logo of the importer or the local producer; and an internationally recognized mark, logo or text for endorsing biodegradable plastic bags, shall be present on the outside of the bag. The text shall be in English or Dhivehi.
- (c) If the biodegradable plastic bag is of the type Oxo-biodegradable plastic bag, the certificate of endorsement for biodegradable plastic bags would be issued for those bags which qualify the following standards.

- (1) The bag shall meet the standard of ASTM D6954-04 "Standard Guide for Exposing and Testing Plastics that Degrade in the Environment by a Combination of Oxidation and Biodegradation"
- (2) The measure of heavy-metals should not exceed the following amounts.

	mg/kg of dry substance	Element	mg/kg of dry substance
Zinc (Zn)	150	Chromium (Cr)	0.5
Copper (Cu)	50	Molybdenum (Mo)	50
Nickel (Ni)	25	Selenium (Se)	0.75
Cadmium (Cd)	0.5	Arsenic (As)	5
Lead (Pb)	50	Fluorine (F)	100
Mercury (Hg)	1.0		

- (3) 90 (ninety) percent of the materials shall deteriorate and decompose on its own within a maximum period of 1 (one) year.
- (4) A minimum of 50 (fifty) percent of materials shall be of organic material.
- (5) Any type of matter that is dangerous to the environment shall not be disposed into the environment during the decomposition.
- (6) Non-biodegradable fraction of the material shall not exceed 5 (five) percent.
- (7) 60 (sixty) percent of the organic carbon in the material shall

convert to carbon dioxide within 6 (six) months.

- (8) The storage life and service life shall be below 8.2 (eight point two).
- (9) The average molecular weight of the bag should be less than 5000 (five thousand) daltons.
- (10) The gel fraction of the bag should be less than 5 (five) percent.
- (11) Bags intended for food packaging shall not contain any material that would negatively affect the food.
- (12) If any of the additives, used in the production, such as: polymers; organic additives; inorganic fillers; stabilizers; or pro-oxidants, are declared dangerous to the environment of Maldives, by the government or by an International Convention to which Maldives is a party to, then the measure of such additives shall be less than 0.1 (Zero point one) percent.
- (13) The conditions for decomposition; the period for decomposition (indicating service life and storage life); the trade names or the chemical names of the additives; the name or logo of the importer or the local producer; and an internationally recognized mark, logo or text for endorsing biodegradable plastic bags, shall be present on the outside of the bag. The text shall be in English or Dhivehi.

4. Acquiring permits before importing as biodegradable plastic bags

- (a) Any party wishing to import biodegradable plastic bags into the Maldives shall submit the following materials or the following information to the Agency and acquire from the Agency, a certificate that endorses biodegradable plastic bags.
  - (1) The detailed profile of the party wishing to import biodegradable plastic bags.
  - (2) 3 (three) samples of the biodegradable plastic bags to be imported into the Maldives.
  - (3) Information of the supplier or the manufacturer of the biodegradable plastic bags:
    - (3.1) Name with complete contact information
    - (3.2) The original document of registration by the supplier or manufacture with the respective authority of the government of that country. If the original document is not available, a copy that is attested by an authority of that government may be submitted.
  - (4) Originals of official documentation showing the results of tests completed assuring that, the biodegradable plastic bags which are to be imported meets the standards specified in

article 3 or meet international standards not less than those specified in article 3. Such documents submitted shall not be more than 6 (six) months from the issued date by a testing laboratory.

- (b) The tests mentioned in (a) (4) of this article, shall include:
- (1) Test to confirm that the bag or the material of the bag is biodegradable;
  - (2) Test to confirm that the decomposition period meets the proposed decomposition period;
  - (3) Test to determine the service life and storage life;
  - (4) Test to determine the conditions or environment for decomposition;
  - (5) Test to determine all types of substances released during the decomposition;
  - (6) Test to determine that the amount of heavy-metals are not more than the that specified in (a) (2) of article 3 or (b) (2) of article 3;
  - (7) Test to determine the weight before and after decomposition;
  - (8) Tests to determine the percentages of gel and other non-biodegradable materials in the bag;
  - (9) Abiotic degradation test (for oxo-biodegradable plastic bags);
  - (10) Test to determine that the material will not negatively affect any food, for bags intended for food packaging and
  - (11) Tests to determine the rate of biodegradation.
- (c) The tests specified in (a) (4) of this article and detailed in (b) of this article should be carried out by a third-party laboratory approved by the government of that country. An official government document for such approval shall be submitted.

5. Collecting samples and testing them

- (a) The Agency shall have the right to acquire samples of imported bags and perform the tests, specified in (b) of article (4), even after the issuance of the certificate by the Agency.
- (b) Upon performing of such tests as specified in (a) of this article, if it is determined from the results of these tests, that the bags do not qualify to the standards of biodegradable bags, the issued certificate shall be revoked.

6. Amendment to standards

The standards shall be maintained and regulated by the Ministry.

7. Enforcement of standards

These standards shall come into force when it has been published in the government's gazette.

8. Meanings

"Biodegradable plastic bags" means bags produced to meet the

*Unofficial Translation*

standards specified in article 3. This include lose bags; rolled bags (packed in multiples); large bags; packaging bags; and those that convert to bags when cut-out by machines. Oxo-biodegradable bag is a type of biodegradable bag that biodegrades with the help of oxygen.

“Poisonous substance” means any substance that harms the environment, humans or other life-forms.

“Ministry” means the government ministry formed by the President of Maldives, vested with all the powers of enacting and executing policies relating to the environment.

“Agency” means the agency responsible for implementing the environmental laws and regulations.