

Identification Standards

Biodegradable Plastics

April 2000 (1st Edition)

October 2009 (Revised)

July 2012 (Revised)

Biomass Plastics

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1. BiodegradablePlastic Identification Standards

- (1) All of the constituent materials (components) must be on the PL.
- (2) BiodegradablePlastics must contain biodegradable synthetic high-polymer materials (PL Category A) as the constituent materials.
- (3) Biodegradable organic materials (the total amount of biodegradable synthetic high-polymer materials (PL Category A) and natural organic materials (PL Category B-8)) must account for at least 50.0% of the weight of the product or at least 50.0% of the volume of the product.
- (4) All organic substances for at least 1wt% of the product shall have had their biodegradability of at least 60% in biodegradability test designated by the Committee.
- (5) The total combined amount of non-biodegradable organic substances accounting for less than 1wt% of the product shall be less than 5wt%
- (6) The quantity of specified elements must not exceed the upper limits specified in Appendix 1.
- (7) Biodegradable & Biobased Plastics must contain at least 25.0% (by weight) components derived from biomass in the composition of the biomass-based synthetic high-polymer materials (PL Category A of Biomass based plastics)

Appendix 1

Upper Limits for Content of Specified Elements

Element	Upper Limit for Content in Products (ppm)	Element	Upper Limit for Content in Products (ppm)
Cadmium (Cd)	0.5	Selenium (Se)	0.75
Lead (Pb)	50.0	Nickel (Ni)	25.0
Chromium (Cr)	50.0	Zinc (Zn)	150.0
Arsenic (As)	3.5	Molybdenum (Mo)	1.0
Mercury (Hg)	0.5	Fluorine (F)	100.0
Copper (Cu)	37.5		

Reference

CEN/TC261/SC4/WG2 N: Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging

1950 Ministry of Agriculture and Forestry Bulletin No.177 (Special Fertilizers Based on the Fertilizer Law)

1991 Environment Agency Bulletin No.46 “Environmental Standards Concerning Soil Pollution” (Soil on Agricultural Land)

1973 General Administrative Agency Regulations “General Administrative Agency Regulations Stipulating Criteria Concerning Industrial Waste Containing Metals, etc.”

2, Compostable Biodegradable Plastics Identification Standards

- (1) All of the constituent materials (components) must be on the PL.
- (2) Compostable Biodegradable Plastics must contain biodegradable synthetic high-polymer materials (PL Category A-2) as the constituent materials.
- (3) Biodegradable organic materials (the total amount of biodegradable synthetic high-polymer materials (PL Category A) and natural organic materials (PL Category B-8)) must account for at least 50.0% of the weight of the product or at least 50.0% of the volume of the product.
- (4) All organic substances for at least 1wt% of the product shall have had their biodegradability of at least 60% in biodegradability test designated by the Committee.
- (5) The total combined amount of PL Category A-1 and non-biodegradable organic substances accounting for less than 1wt% of the product shall be less than 5wt%
- (6) The maximum size of materials that consist of Compostable Biodegradable Plastics must be less than 2mm.
- (7) The maximum thickness of the Compostable Biodegradable Plastics must be less than the minimum thickness in all of compostable tests of the constituent biodegradable synthetic high-polymer materials (components)
- (8) The quantity of specified elements in Compostable Biodegradable Plastics must not exceed the upper limits specified in Appendix 1.

3. BiomassPla Identification Standards

- (1) None of the constituent materials (components) shall be substances on the Appendix 2 of prohibited substance
- (2) BiomassPla must be plastic products that contain at least 25.0% (by weight) components derived from biomass in the composition of the biomass-based plastic or biomass-derived thermosetting plastic raw material.
- (3) As for BiomassPla, the use of compounds that contain lead, cadmium, mercury or hexavalent chromium is prohibited. Even if these are not used intentionally, the content of these specified toxic substances in the product must not exceed the values given in Appendix 3

Appendix 2 Prohibited substances

- a) Substances designated as a Class I or Class II specified chemical substance under the latest version of the Law Concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture (Chemical Substances Control Law).
- b) Substances subject to a prohibition on their manufacture under the latest version of the Industrial Safety and Health Law.
- c) Substances designated as poisonous under the latest version of the Poisonous and Deleterious Substances Control Law.
- d) Chemical substances classified as Group 1 substances under the system of evaluation and classification of the carcinogenicity of chemical substances employed by IARC (International Agency for Research on Cancer).
- e) Substances that this association has deemed to be particularly undesirable.

Appendix 3 Maximum Permissible Concentrations of Specified Toxic Substances

(Threshold Values)

Toxic substances	Maximum permissible concentrations (ppm)
Lead	1,000
Cadmium	100
Mercury	1,000
Hexavalent chromium	1,000

Reference

These have been determined with reference to EU directives (the RoHS (Restriction of Hazardous Substances) directive and the ELV (End-of-Life Vehicle) Directive).