

Eco Mark Product Category No.140

“Containers and Packaging for Food and Beverages, Cosmetics, Household Goods Version 1.15” Certification Criteria

## H. Plastic containers and packaging using bio-based plastics

Japan Environment Association  
Eco Mark Office

### 1. Purpose of establishing criteria

Omitted

### 2. Applicable Scope

The criteria shall cover plastic containers and packaging that function to preserve the quality of content (such as extension of the quality preservation period). However, if the Eco Mark product category is also set on the content, such packaging is treated as an individual package of said content and thus not included in the applicable scope of this product category.

The Category H cover plastics whose bio-based carbon content can be determined by  $^{14}\text{C}$  content measurement. Bio-attributed plastics managed under the mass balance approach are exempt from the Category H.

### 3. Terminology

Omitted

### 4. Certification Criteria and Certification Procedures

To show conformance to the criteria items, the Attached Certificates and related documents shall be submitted.

#### 4-1. Environmental Common Criteria and Certification Procedures

(1) The content of biobased synthetic polymer in the container and packaging shall meet the corresponding rate in Table 1

Table 1. Percentage by weight of recycled and bio-based plastics for containers and packaging

Classification	Molded product, etc.	Laminated packaging materials
Weight percentage of bio-based plastics	25% or more	10% or more

(content of bio-based synthetic polymer)		
Weight percentage of bio-based PET (content of biobased synthetic polymer)	10% or more	3% or more

Note) For laminated packaging materials, any material other than plastic (an adhesive, printing ink, aluminum foil of a laminated packaging material, etc.) may be excluded from the weight calculation.

[Certification Procedure]

Documents to meet all requirements in the following a) – c) shall be submitted.

- a) Certificates indicating the calculated content of biobased synthetic polymers shall be submitted. For the bio-based plastic (raw resin) thereof, measurement results of the biobased synthetic polymer content calculated with the method specified in ISO 16620-3, using measurement results of the biobased carbon content and element composition by the <sup>14</sup>C method specified in ISO 16620-2 or ASTM D6866 shall be mentioned. Should there be any deviation of 10% or higher between the measurement results and the content of biobased synthetic polymer in the standard, a description of a reason(s) therefor shall also be included. The measurement results of the biobased carbon content shall be submitted as an attached document.

In addition, for appropriate maintenance of the content of biobased synthetic polymer after certification, any of the following certificates issued by a raw resin supplier (including a dealer) shall be submitted.

- An explanatory document stating that measurements of the content of biobased carbon will be regularly carried out, and that measurement results can be disclosed as per a request of the Eco Mark Office; and

- A certificate that the Applicant has been audited or certified by a third party for management of the content of the biobased synthetic polymer.

- b) Sustainability of biomass mixed into plastic as raw material shall meet the requirements of [Appendix 1\(a\)](#) “Sustainability checklist of bio-based plastics (raw resin)” and the supply chains of the biomass shall be identified. If the biomass material has undergone third-party audit or certification for sustainability (an international sustainability certification for plastics, etc.), the result of audit or certification may be submitted as evidence instead of [Appendix 1\(a\)](#). An applicant shall submit documents on the source of biomass material (a cultivation area (country, state, city, etc.), a generation process of waste and residues, etc.), a manufacturing flowchart (of raw resin) (describe the name of manufacturers of fundamental chemicals (monomers), polymers, etc.), and checklists or an evidence of a third-party audit or certification.

To the application for Eco Mark certification of products containing bio-based plastics or biomass materials that have never been certified for use, Eco Mark Office may request the applicant (or the plastic supplier) to provide information on the chemical composition of the products (see [Appendix 1\(b\)](#)).

- c) For the bio-based plastic (raw resin), results of the life cycle assessment (LCA) conducted by a third party that greenhouse gas emissions (CO<sub>2</sub> conversion) from raw material procurement to discarding/recycling do not increase when compared with conventional resin that is to be replaced shall be submitted. (An applicant shall provide the LCA result and the calculation conditions. If the applicant has undergone LCA under an international sustainability certification scheme for plastics, it may submit the data instead. The applicant may submit an academic paper published on a journal as an evidence as long as

the same materials and/or manufacturing processes (sites) are mentioned in the paper as those used for the product applied for certification.)

- (2) In manufacturing the applying product, related environmental laws and regulations and pollution control agreement (hereinafter referred to as the “Environmental Laws, etc.”) must be followed with respect to air pollution, water contamination, noise, offensive odor, and emission of hazardous materials in the area where the plant performing the final manufacturing process is located.

In addition, the state of compliance with the Environmental Laws, etc. for the last five years from the date of application (whether there is any violation) must be reported. If there is any violation, it is necessary that proper remedies and preventive measures have been already taken, and the related Environmental Laws, etc. must thereafter be followed appropriately

[Certification Procedure]

With respect to the compliance with the Environmental Laws, etc. in the area where the plant performing the final manufacturing process is located, a certificate issued by the representative of the manufacturer of the applying product or the relevant plant manager (entry or attachment of a list of names of the Environmental Laws, etc.) must be submitted.

In addition, the applicants shall report whether there is any violation in the past five years, including a violation subject to administrative punishment or administrative guidance, and if there is, the following documents in a and b must be submitted:

- a. With respect to the fact of violation, guidance documents from administrative agencies (including order of correction and warning) and copies of written answers (including those reporting causes and results of correction) to such documents (clearly indicating a series of communication);
- b. Following materials (copies of recording documents, etc.) concerning the management system for compliance with the Environmental Laws, etc. in 1)-5):
  - 1) List of the Environmental Laws, etc. related to the area where the plant is located;
  - 2) Implementation system (organizational chart with roles, etc.);
  - 3) Bylaws stipulating retention of recording documents;
  - 4) Recurrence prevention measures (future preventive measures);
  - 5) State of implementation based on recurrence prevention measures (result of checking of the state of compliance, including the result of onsite inspection).

- (3) Substances regulated by “Voluntary Regulation on Printing Ink (NL regulations)” by the Japan Printing Ink Makers Association shall not be added to printing ink used for the container and packaging as a prescription constituent.

[Certification Procedure]

Conformance to the NL regulations shall be stated in the Attached Certificate.

- (4) Plastic materials used in the containers and packaging shall not be added plastics

that contain halogen in polymer backbone as a prescription constituent.

[Certification Procedure]

For plastic materials, whether any halogen element is added or not in polymeric backbone shall be stated in the Attached Certificates

- (5) Plastic additives of plastic materials used in containers and packaging for food such as the plasticizers, color materials, stabilizers, lubricants, etc. shall conform to the positive list system of food utensils, containers and packaging, etc. In case of using the plastic additives which are not listed in the positive list for the products which are not intended as containers for food, the plastic additives shall meet the requirements described in ISO 8124-3, etc.

[Certification Procedures]

The Applicant shall submit certificates that such plastic additives as plasticizer, color materials, stabilizers, lubricants, etc. used in the plastic materials conform to the Positive List system of food utensils, containers and packaging, etc. With respect to plastic additives not included in the Positive List, the results of tests to show the conformance to the requirements for stipulated in ISO 8124-3, etc. shall be submitted.

- (6) Adhesives used for the containers and packaging shall conform to “voluntary regulations on adhesives for food package materials, etc.” (NL regulations) by the Japan Adhesive Industry Association

[Certification Procedures]

Conformance to the NL regulations shall be stated in the Attached Certificate.

- (7) The containers and packaging for food shall meet the requirement described in “the Standards and criteria for Food and Food Additives, etc. (Ministry of Health and Welfare Notice No. 370, 1959)”

[Certification Procedures]

The Applicant shall submit test results certifying that the corresponding requirements are met.

#### 4-2. Quality Criteria and Certification Procedures

- (8) Quality of containers of containers and packaging shall conform to the industrial voluntary standards or the manufacturer’s own standards.

[Certification Procedures]

A document to show the conformance to the appropriate standards shall be submitted.

### 5. Considerations

In manufacturing products, it is desirable to consider the following, although they

are not requirements for certification. The conformance to the individual criteria item shall be indicated in Attached Certificates.

- (1) Containers and packaging shall have a mechanism related to discharge control of wastes from recovery/recycling
- (2) Plastic materials to be used in a container/package shall not be a disincentive for recycling after use.
- (3) The percentage of mixing for bio-based plastic, etc. shall be indicated.

## 6. Product Classification, Indication and Others

- (1) A product classification (application unit) shall be by a brand name.
- (2) When indicating the Eco Mark on the packaging, it should be indicated so as to clearly show that the product packaging or container is the Eco Mark certified products and also show that the product content has nothing to do with the Eco Mark
- (3) In principle, Eco Mark shall be indicated on the body of the container and packaging, etc.

Example)



エコマーク認定容器



Eco Mark Certified

(Note for the indication)

\*For indicating the logo, Eco Mark certification number (eight-digit number) or the name of the licensee using the logo shall be appeared.

\* Such expression as “Eco Mark product” can be used following the 2.(2) of the Guide to Eco Mark Usage.

“Eco Mark product”, “#Eco Mark”, “www.ecomark.jp”, “Eco Mark Certificate”

\*In accordance with “Environmental Labeling Guidelines” of the Ministry of the Environment of Japan, etc., the environmental claims of certified products may be indicated in association with Eco Mark.

(<https://www.env.go.jp/policy/hozen/green/ecolabel/guideline/>)

\* The Guide to Eco Mark Usage shall be followed for any cases not listed above.

(<https://www.ecomark.jp/office/guideline/guide/>)

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October 1, 2013	Addition of Category C, D and E (Version 1.7)
June 1, 2015	Revised (Category A-D) (Version1.8)
June 1, 2016	Addition of Category G and H (Version 1.9)
September 16, 2016	Addition of Category F (Version1.10)
February 1, 2017	Revised (Category D 4-1-1(1) and 5, Category E 5, and Category H 3: Version1.11)
April 1, 2019	Revised (6.(2)(3))
November 28, 2019	Revised (Category A, 4-2.(18) added Version.1.12)
November 1, 2020	Revised (Version1.13), Extension of Expiration
December 15, 2022	Revised (Version1.14)
February 1, 2023	Revised (Version1.15, Category K added, I, J, etc. revised)
June 30, 2027	Expiration

The Certification Criteria for the Product Category will be revised when necessary.

Appendix 1(a) Sustainability checklist of Bio-based Plastic (Raw Resin)

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
1	Prevention of global warming, conservation of the natural ecosystem	Hasn't the farm land where plants are cultivated been converted from valuable land in biodiversity or land with high carbon storage (forests, peatland, etc.) since 2008?	Farm land	<input type="checkbox"/> Not converted <input type="checkbox"/> Converted <input type="checkbox"/> Not applicable due to residues or waste	<input type="checkbox"/> Confirmed the laws and regulations concerning the land conversion for the site. <input type="checkbox"/> Gained the understanding of the actual condition of the site through on-site investigation or hearings. <input type="checkbox"/> Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: <input type="checkbox"/> Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: <input type="checkbox"/> Others (Describe specifically.):
2	Conservation of the ecosystem	If the Applicant uses the genetically modified crop as a raw material, has the Applicant assessed ensuring of safety?	Farm land	<input type="checkbox"/> Yes/ <input type="checkbox"/> No/ <input type="checkbox"/> Not applicable (GM crops Not used) <input type="checkbox"/> Not applicable due to residues or waste	<input type="checkbox"/> Confirmed the laws and regulations concerning genetically engineered crop on the site. <input type="checkbox"/> Gained the understanding of the actual condition of the site through on-site investigation or hearings. <input type="checkbox"/> Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: <input type="checkbox"/> Also using the certification system of an independent third party, regarding the procurement of plants.

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
					-Name of certification system: <input type="checkbox"/> Others (Describe specifically.):
3	Prevention of land acidification/nutrient enrichment/water contamination	Has the Applicant gained the understanding of usage conditions of fertilizers/agricultural chemicals in the main cultivation area of plants? Isn't any agricultural chemical regulated under the "Stockholm Convention on Persistent Organic Pollutants" (POPs Treaty) used?	Farm land	<input type="checkbox"/> Yes/ <input type="checkbox"/> No <input type="checkbox"/> Not applicable due to residues or waste	<input type="checkbox"/> Confirmed the laws and regulations concerning fertilizers/agricultural chemicals on the site <input type="checkbox"/> Gained the understanding of the actual condition of the site through on-site investigation or hearings. <input type="checkbox"/> Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: <input type="checkbox"/> Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: <input type="checkbox"/> Others (Describe specifically.):
4	Appropriate water usage	Has the Applicant gained the understanding of usage conditions of water in the main cultivation area of plants?	Farm land	<input type="checkbox"/> Yes/ <input type="checkbox"/> No <input type="checkbox"/> Not applicable due to residues or waste	<input type="checkbox"/> Confirmed the laws and regulations concerning usage of water (limits on the amount of water) on the site. <input type="checkbox"/> Gained the understanding of the actual condition of the site through on-site investigation or hearings. <input type="checkbox"/> Defined and released the guideline for procurement of plants. Alternatively, conforming to the guideline of an independent third party. - Name of the guideline: - Location of release: <input type="checkbox"/> Also using the certification system of an independent

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
					third party, regarding the procurement of plants. -Name of certification system: <input type="checkbox"/> Others (Describe specifically.)
5	Use of recycled resources, avoidance of competition for food	If recycled resources are available as a part of crude raw materials of bio-based plastic (raw resin) on the site, did the Applicant preferentially use them?	Raw resin	<input type="checkbox"/> Yes/ <input type="checkbox"/> No/ <input type="checkbox"/> Not applicable (Not available)	Name of recycled resource in use [ ] Generated amount/percentage of recycled resources [ ]
6	Prevention of global warming	Has the Applicant gained the understanding of the processing status of methane having a high global warming potential if it is generated by fermentation in the main manufacturing plant for the crude raw material?	Crude raw material manufacturing plant	<input type="checkbox"/> Yes/ <input type="checkbox"/> No <input type="checkbox"/> Not applicable	<input type="checkbox"/> Gained the understanding of the actual condition of the site through on-site investigation or hearings. <input type="checkbox"/> Others (Describe specifically.) [ ]
7	Utilization of non-fossil energy sources and renewable energy sources	In the course of cultivation to raw resin manufacturing, did the Applicant utilize as many non-fossil energy sources (for example, bagasse, biogas, off gas, etc.) or renewable energy sources as possible?	Manufacturing plant	<input type="checkbox"/> Yes/ <input type="checkbox"/> No	Energy name and method of utilization [ ]
8	Legal compliance	In manufacturing the bio-based plastic (raw resin), does the applicant follow related environmental laws and regulations	Resin manufacturing plant	<input type="checkbox"/> Yes/ <input type="checkbox"/> No	Monomer manufacturer / plant name [ ] Resin manufacturer / plant name [ ]

No	Purpose	Request (Item that must be realized)	Subject	Realized	Implementation Method (Check off all relevant items.)
		and pollution control agreement with respect to air pollution, water contamination, noise, vibration, offensive odor, and emission of hazardous materials?			

**Appendix 1 (b)** Sheet for Providing Information for Application of Products Containing New types of Bio-based Plastics or Biomass Materials

Month/Day/Year

Submit to: Eco Mark Office, Japan Environment Association

Company name: \_\_\_\_\_

Department: \_\_\_\_\_

Name: \_\_\_\_\_

E-mail: \_\_\_\_\_

**1. Information on bio-based plastic used in a product applied for Eco Mark certification**

Item	Description
Type of plastic (PE, etc.)	
Chemical structural formula	
Major use (molded product, fiber)	
Launch onto the market and production volume of bio-based plastic	<input type="checkbox"/> Already put on the market ( <input type="checkbox"/> Japan / <input type="checkbox"/> Overseas)
	<input type="checkbox"/> Not yet (the scheduled time of launch                      Month/Year)
	Production volume (actual, planned or estimated)                      tons (Year)
Manufacturer of bio-based plastic (and the URL of website) (Describe the name of manufacturer of bio-based plastic proposed in the form in addition to the applicant)	
Fossil-based plastic to be replaced with the bio-based plastic	
Manufacturing process chart from raw material to production of plastic (Description of processes from acceptance of raw material to production of monomer and plastic, with or without of fermentation process, etc.)	May be described in an attached sheet
100-percent bio-based/ Partially bio-based	<input type="checkbox"/> 100-percent bio-based (the bio-based synthetic polymer content is 100 percent) <input type="checkbox"/> Partially bio-based -> The maximum bio-based synthetic polymer content that can be mixed into the bio-based plastic [    %]
Management under the mass balance (MB) approach	<input type="checkbox"/> Plastic directly mixed with biomass / <input type="checkbox"/> MB approach *Bio-based plastics managed under the MB approach are not covered by the guidelines.
Biodegradability	<input type="checkbox"/> Yes    / <input type="checkbox"/> No
Disposal after use Issues in disposal and	

recycling in comparison with fossil-based plastics to replace with (possible disposal method, etc.)	
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## 2. Information on biomass material

Item	Description
Type of biomass material (name of plant, etc.)	
Cultivation area (country, state, city, etc.) or the generation process of waste and residues, etc.	
Production or generation volume of biomass material	
Main use of biomass material (principal product or by-product)	
State of cultivation land (for plants, describe type of land such as peatland)	
Possible influences on biomass material if production of bio-based plastic increases in the future (Influences on other uses of the biomass, influences caused by rapid expansion of production of the biomass, etc.)	
Competing demand against foods	
Use of recycled material in production of bio-based plastic (If recycled material can be used, describe the source, collection methods, management under EU RED, etc.)	

## 3. Information on sustainability of biomass material

Item	Description
Sustainability certificates and initiatives of biomass material (RSPO, ISCC, etc.) and acquisition (If acquired, describe the name and detailed criteria)	
Any sustainability issues pointed out by NGOs or researchers regarding the cultivation of biomass material (If any, describe the details and the URL of website of NGOs or researchers)	
Any other concerns about the biomass material	

**4. Others**

Item	Description
Other bio-based plastics produced from the same biomass material (if any, describe the name of bio-based plastics)	
Others	

\* Attach relevant documents such as company profile of manufacturer.

The information provided in this form will be used as reference for examination of Eco Mark certification by Eco Mark Office and relevant committees only. The Certification Committee will assess the sustainability of bio-based plastic based on the information provided in the form. The Certification Committee may conduct additional study or consult with the Evaluation Panel established under the Committee as necessary. In this case, a longer assessment period will be taken than usual.