Eco Mark Product Category No.140
"Containers and Packaging for Food and Beverages, Cosmetics, Household Goods Version 1.15"
Certification Criteria

D. PET Bottles (Container)

Japan Environment Association
Eco Mark Office

1. Purpose of establishing criteria

Omitted

2. Applicable Scope

PET bottles (specified PET bottles) specified by Cabinet Order on the basis of "Act on the Promotion of Effective Utilization of Resources" and those preforms

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.

If the Applicant makes an application of an end product which is a combination of a bottle main body (including a preform) that has been Eco Mark certified as an intermediate product under this Certification Criteria with a label and a cap, presentation of the Eco Mark certification number of the bottle main body shall be a substitute for certification of the Certification Procedures of 4-1-1.(1) and 4-1-2.(4), (5), (7) and (8) of the criteria items relevant to the bottle main body.

4-1. Environmental Criteria and Certification Procedures

4-1-1. Common Criteria and Certification Procedures

(1) Percentage of bottle weight reduction, percentage by weight of recycled PET for a bottle, percentage by weight of plant-based PET (content of biobased synthetic polymer) and the overall rating of environmental friendliness of the cap and label calculated by the following formula shall be 60 or more

$$\text{Evaluation rating} = \boxed{\text{A-1}} + \boxed{\text{A-2}} + \boxed{\text{A-3}} + \boxed{\text{B}} + \boxed{\text{C}}$$

A. Bottle

A-1 Percentage of bottle weight reduction

Rate to bottle weight in FY 2004 (Table 1.): x	point
20%≦x＜25%	40
25%≦x＜28%	50
28%≦x＜40%	60
40%≦x	70

Table 1. weight reduction of bottle

Intended Use		Size[ml]	Bottle weight in FY2004[g]
Cold beverage	Heat resistance	350	25.1
		500	27.5
		1,500	55.7
		2,000	63.5
	Pressure resistance	500	31.1
		1,500	48.3
	Sterilization	500	25.2
		2,000	51.7
Alcoholic beverage	Alcoholic beverage	2,700	89.9
		4,000	138.9
	Sweet cooking rice wine (mirin)	1,000	36.2
		1,800	78.2
Soy sauce	Soy sauce	500	25.0
		1,000	33.0
		1,800	77.0
	Soy sauce processed products	500	26.6
		1,000	38.5

＊1) According to the bottle weight in FY2004 defined by the Council for PET Bottle Recycling.
＊2) For any bottle that falls under multiple intended use categories (such as heat and pressure resistance, etc.), an intended use category with a lighter bottle weight in FY2004 shall apply.
＊3) For intermediate sizes, the deemed 2004 bottle weight shall be calculated by prorating from the 2004 bottle weight of 17 major products of the same use.

A-2 Use of recycle PET

percentage in weight of recycled PET: y	point
5%≦y＜25%	30
25%≦y＜50%	50
50%≦y＜75%	60
75%≦y	70

A-3 Use of Bio-based PET

Bio-based PET (content of biobased synthetic polymer): z	point
5%≦z＜10%	30
10%≦z＜20%	50
20%≦z＜30%	60
30%≦z	90

Note: When applying A-2 or A-3, the weight shall not exceed the weight of an equivalent bottle (the Company's most recent bottle of the same use and size).

B. eco-friendly cap

(select one)

Weight reduction (compared to conventional equivalent products of the company)	10
Weight proportion of bio-PE, bio-PP (content of biobased synthetic polymer)in a cap: 25% or more	20

C. eco-friendly label

(select one)

Thinner and smaller label (compared to conventional equivalent products of the company)	10
25% or more of weight percentage of recycled plastic, or 10% or more of bio-based plastic (content of biobased synthetic polymer) in a label	20
Labelless	30

[Certification Procedures]
Certification Procedures for A1 to C shall conform to Exhibit 1.

(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 manager of the relevant plant (entry or attachment of the list of names of the Environmental Laws, etc.) must be submitted.
In addition, it is necessary to report whether there is any violation during the last 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 (making a series of progress clear);
b. Following materials (copies of recording documents, and so on) 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 entry of roles, etc.);
   3) Document 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).

4-1-2. Criteria on Components and Certification Procedures

The following items (3) to (9) shall apply to [Applicable Component] specified in each item, of components of the applied product (Out of a bottle (including a preform), label, or cap, a component that is included in the scope of application).

(3) Substances regulated by "Voluntary Regulation on Printing Ink (NL regulations)" by the Japan Printing Ink Makers Association shall not be added in the printing ink used for the product as a prescription constituent. [applicable components: label, cap]

[Certification Procedures]
Compliance with the Negative List regulations shall be indicated in the Attached Certificate.

(4) Plastic materials shall not be added plastics that contain halogen in polymer backbone as a prescription constituent. [applicable components: PET bottle, label, cap]

[Certification Procedures]
Whether any halogen element is added or not in polymer backbone shall be indicted in the Attached Certificate.

(5) Plastics additives such as the plasticizers, color materials, stabilizers, lubricants, etc. used in the plastic materials shall conform to the positive list system of food utensils, containers and packaging, etc. [applicable components: PET bottle, label, cap]

[Certification Procedures]
To show that plastic additives such as the plasticizers, color materials, stabilizers, lubricants, etc. used in the plastic materials conform to the positive list system of food utensils, containers and packaging, etc., a certificate that the plastic additives are registered in the positive list (registration number, substance name, CAS No., etc.) shall be submitted for one representative plastic additive.

(6) For food containers in which recycled plastic materials are used, the measures to ensure the safety based on "Guidelines on the use of recycled plastic in food apparatus and containers and packaging" of Ministry of Health, Labour and Welfare (Shokuan, 0427 No.2, April 27 2012), shall be taken. [applicable components: PET bottle, cap]

[Certification Procedure]
The written document shall be submitted which shows the ensuring the safety based on "Guidelines on the use of recycled plastic in food apparatus and containers and packaging" of Ministry of Health, Labour and Welfare (Shokuan, 0427 No.2, April 27 2012).

(7) Adhesives to be used shall conform to "Voluntary regulations on adhesives for food package materials, etc." by the Japan Adhesive Industry Association (NL regulations). [applicable components: label]

[Certification Procedures] Certifier: Applicant
Conformance to the NL regulations shall be stated in the Attached Certificate.

(8) The product shall meet the requirements of harmful substances described in the Standards for Foods, Food Additives, etc. (Ministry of Health and Welfare Notice No. 370, 1959). [applicable components: PET bottle, label, cap]

[Certification Procedures]
To certify that requirements for a corresponding hazardous material are satisfied, a description of a management method (procedures) and test results shall be submitted for one representative plastic material.

(9) The product shall conform to "Designated PET Bottle Voluntary Design Guideline" by PET Bottle Recycle Promotion Association. [applicable components: PET bottle, label, cap]

[Certification Procedures]
The evaluation results conducted in accordance with the Designated PET Bottle Voluntary Design Guideline shall be submitted.

4-2. Quality Criteria and Certification Procedures

(10) Quality 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 this is not a requirement for certification. The conformance to the individual criteria item shall be indicated in Attached Certificates.

(1) The percentage of mixing shall be indicated when recycled plastic or bio-based plastic is used.

6. Product Classification, Indication and Others

(1) A product classification (application unit) shall be by a brand name. Bottles in different sizes may be applied at one time under an application unit.

(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 bottle, etc. The licensees of Eco Mark Utilization Contract who own the Eco Mark products shall also be allowed to use the indication and the certification number as before.
Example)


エコマーク認定ボトル


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/)

October 1, 2013	Addition of Category C, D and E (Version 1.7)
June 1, 2015	Revised (Category A-D, Version 1.8)
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 Version1.12)
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.

Exhibit 1 4-1-1.(1) Certification Procedure

A-1 weight reduction of bottle

[Certification Procedures]
The applicant shall state the intended use, size and weight of a bottle in the certificate (a label and a cap shall not be included in calculation of weight). In addition, a reference material showing an overview of the bottle (such as specifications, etc.) shall be submitted.

A-2、B、C Certification procedure in the use of recycled plastics

[Certification Procedures]
The Applicant shall submit a certificate on the weight of PET bottle (or cap and label) weight and weight percentage of recycled plastics, and a raw material certificate issued by a raw material supplier.

A-3、B、C Certification procedure in the use of bio-based plastics

[Certification Procedures]
All a) - c) below shall be submitted.

a) Certificates indicating the calculated content of biobased synthetic polymers in the PET bottle (or cap, label) 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 14C 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 underwent 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_2 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 underwent 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.)

B、C Environmental friendliness of caps and labels (weight reduction, thinning, etc.)

[Certification Procedures]

For lighter weight caps and labels and thinner or smaller labels, provide documents showing that the percentage of plastic weight has been reduced in comparison to conventional products, such as the company's equivalent products. For label-less product, submit an external view of the product, etc.

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	□Not converted □Converted □Not applicable due to residues or waste	□Confirmed the laws and regulations concerning the land conversion for the site. □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □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: □Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: □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	□Yes/ □No/ □Not applicable (GM crops Not used) □Not applicable due to residues or waste	□Confirmed the laws and regulations concerning genetically engineered crop on the site. □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □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: □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: □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	□Yes/ □No □Not applicable due to residues or waste	□Confirmed the laws and regulations concerning fertilizers/agricultural chemicals on the site □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □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: □Also using the certification system of an independent third party, regarding the procurement of plants. -Name of certification system: □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	□Yes/ □No □Not applicable due to residues or waste	□Confirmed the laws and regulations concerning usage of water (limits on the amount of water) on the site. □Gained the understanding of the actual condition of the site through on-site investigation or hearings. □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: □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: □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	□Yes/ □No/ □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	□Yes/ □No □Not applicable	□Gained the understanding of the actual condition of the site through on-site investigation or hearings. □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	□Yes/ □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	□Yes/ □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	□Already put on the market (□Japan／□Overseas) □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	□100-percent bio-based (the bio-based synthetic polymer content is 100 percent) □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	□Plastic directly mixed with biomass／□MB approach *Bio-based plastics managed under the MB approach are not covered by the guidelines.
Biodegradability	□Yes ／ □No
Disposal after use	

Issues in disposal and recycling in comparison with fossil-based plastics to replace with (possible disposal method, etc.)	

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.