Eco Mark Product Category No.142

"Ink Cartridge Version1.5"
Certification Criteria

—Applicable Scope—
A. Original ink cartridge
B. Recycled ink cartridge

Established: February 25, 2008
Last revised: March 1, 2013
Expiration date: February 28. 2020

Japan Environment Association
Eco Mark Office

NOTE: This document is a translation of the criteria written in Japanese. In the event of dispute, the original document should be taken as authoritative.

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1. Purpose of Establishing Criteria

Omitted.

2. Applicable Scope

Recycled ink cartridge

3. Terminology

Omitted.

4. Certification Criteria and Certification Procedure

4-1. Environmental Certification Criteria and Certification Procedure

4-1-1 Ink

(1) With regard to heavy metal contained in the ink, cadmium, lead, mercury, hexavalent chromium, nickel and their compounds shall not be included as prescription constituents. However, this shall not apply to complex compounds of high molecular weight nickel that are included as a coloring agent

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. A list describing whether applicable substances are included: Fill-out Form 142B-2 issued by the ink supplier shall also be submitted.

(2) With regard to azo colorants in the ink, those which may release amines listed in Table 1 due to the decomposition of one or more azo groups (dyes and pigments) (according to the official test method corpus based on Article 35 of the German law on foods and sundries) shall not be used.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. A list describing whether applicable substances are included: Fill-out Form 142B-2 issued by the ink supplier shall also be submitted.

Table 1. Amines that should not be released due to the decomposition of azo groups
(according to EU Assembly/Council Directive 2002/61/EC)

	Chemical substances	CAS No.
1	4-aminobiphenyl	92-67-1
2	Benzidine	92-87-5
3	4-chloro-o-toluidine	95-69-2
4	2-naphthylamine	91-59-8
5	o-aminoazotoluene	97-56-3
6	2-amino-4-nitrotoluene	99-55-8
7	p-chloroaniline	106-47-8
8	2,4-diaminoanisole	615-05-4
9	4,4'-diaminodiphenylmethane	101-77-9
10	3,3'-dichlorbenzidine	91-94-1
11	3,3'-dimethoxybenzidine	119-90-4
12	3,3'-dimethylbenzidine	119-93-7
13	3,3'-dimethyl-4,4'-diaminodiphenylmethane	838-88-0
14	*p*-cresidine	120-71-8
15	4,4'-Methylene-bis - (2-Chloroaniline)	101-14-4
16	4,4'-oxydianiline	101-80-4
17	4,4'-thiodianiline	139-65-1
18	*o*-toluidine	95-53-4
19	2,4-toluylene diamine	95-80-7
20	2,4,5-trimethylaniline	137-17-7
21	*o*-anisidine	90-04-0
22	4-amino- azobenzen	60-09-3

(3) Other hazardous substances related to ink shall not contain the following substances ("a." to "c.") as prescription constituents:

a. The following substances which need to be labelled as "R" in accordance with Annex I of the EC Commission Directive 67/548/EEC concerning the approximation of laws, regulations and administrative rules on the classifications, packaging, and labelling of hazardous substances in the EU.
- R40(Limited evidence of a carcinogenic effect)
- R45(May cause cancer)
- R46(May cause heritable genetic damage)
- R49(May cause cancer by inhalation)
- R60(May impair fertility)
- R61(May cause harm to the unborn child)
- R62(Possible risk of impaired fertility)
- R63(Possible risk of harm to the unborn child)
- R68(Possible risk of irreversible effects)

b. Substances required to be marked by a specified hazard symbol as a whole product pursuant to Annex II of the EC Commission Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances; and pursuant to Directive 1999/45/EC on the approximation of the laws, regulations and administrative provisions relating to the

classification, packaging and labelling of dangerous preparations.

c. Substances required to be marked by R43 (May cause sensitization by skin contact) as a whole product pursuant to Annex III of the EC Commission Directive 67/548/EEC concerning the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. A list describing whether applicable substances are included: Fill-out Form 142B-2 issued by the ink supplier shall also be submitted.

(4) Ink shall give a negative result in the Ames test.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. According to the Law concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances, a report of the results of the Ames test shall be submitted.
The report shall include the following items:
・Name of the testing institute ・Name of the tested substances
・Testing period ・Used strain ・Test result

(5) Products shall be equipped with the ink MSDS (Material Safety Data Sheet).

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate and MSDS issued by the ink supplier shall be submitted.

4-1-2 Ink cartridges

(6) If any parts of ink cartridges have been replaced, the "3R Design Checklist" in Appendix 1 shall be complied with.

[Certification Procedure]
Required particulars shall be indicated in 3R Design Checklist in Appendix 1 and submitted.

(7) Ink cartridge containers that have been replaced and plastic parts integrated with such containers shall be made of one homopolymer or copolymer. However, polymer blends (polymer alloys) may be used. Labels, etc. shall be made of the same material as that of the parts to which the labels are to be pasted, or of a material that does not obstruct recycling, if it is difficult to separate the labels.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. A list of the plastic materials used: Fill-out Form 142B-3 shall also be submitted. If labels, etc. are pasted, whether they can be separated easily and their materials shall be specified in the form.

(8) Polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE) or short-chain chlorinated paraffin (having a chain of 10 to 13 carbon atoms and a chlorine concentration of 50% or more) are not added to plastic parts of ink cartridges as prescription constituents.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate.

(9) Plastic parts of ink cartridges shall not include as their prescription constituents any plastic additives or pigments that contain lead, cadmium or mercury.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate.

(10) Collection systems shall be available for ink cartridges.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. Certificates describing clearly the ink cartridge collection system (number of boxes collected, collection bases and routes, number of collection bases, etc.) shall also be submitted.

(11) The recovery rate and the reuse/material recycling rate of collected used ink cartridges shall satisfy table 2. Parts which cannot be recovered shall not be simply landfilled but be appropriately processed after the weight reduction.

Table 2. Numerical Threshold Stipulated in (11)

Recovery rate (reused, material recycled, energy recovered, conversion to oil, gasification, blast furnace reduction, conversion to chemical material by coke oven)	95% or more
Reuse/material recycling rate	60% or more

*Denominator for calculating rate shall be mass weight of all collected used ink cartridge excluding ink.
*"All collected used ink cartridges" means cartridges collected at the responsibility of the applicant or manufacturer.
*The words "appropriately processed" shall mean that the parts that cannot be recycled are processed or disposed of properly by the business making the application or engaging in manufacture on its own responsibility, and any processing done by a collection system implemented by other business shall not be included (except cases where such processing is done under a contract, agreement, or the like concluded between the businesses). In addition, cartridges, which are released as being not subject to collection on the web site or in the catalog, etc., are excluded from the target ink cartridges.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate.
Documents explaining the recovering, the reuse/material recycling parts which cannot be recovered and Fill-out Form 142B-4 shall be submitted.

(12) Either the package of a cartridge product, printed matter to be contained in the same package thereof, or the instruction manual of the main equipment product shall include a description of the details of “a.” through “j.” below so that they can easily be seen by the user.

a. Name of the product for which application is filed
b. Name of the applicant company (it may be the company’s brand name or the like)
c. Telephone number for contact
d. Proper handling method
e. Treatment in cases where the ink has attached to the hand or in the event that it has entered the eyes, mouth, etc.
f. The product should be kept in a place out of reach of children.
g. Collection method after use
h. Information on after-sales service for users
i. The fact that the products are recycled ink cartridges
j. The fact that there may be differences in the colors and long-term durability of printing, if the ink filled in an original ink cartridge is not the same as the ink in a recycled ink cartridge

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate and copies of the applicable parts of the documents attached to the products shall be submitted.

(13) Information shall be provided on the series of equipment on which the products can be used in their packages, printed matter for advertisement, or websites so that they can easily be seen by the user. Users shall be provided with a means for obtaining the latest information on the series of equipment on which the products can be used.

[Certification Procedure]
Among the packages, printed matter for advertisement, URLs of the applicable parts of websites, etc. containing a description of the designated information, necessary material shall be submitted.

(14) The main parts of the products shall contain a description of the items “a” and “b” below so that they can easily be seen by the user.

a. Name of the product for which application is filed
b. Name of the applicant company (it may be the company’s brand name, etc.)

[Certification Procedure]
Photos, samples, etc. of the applicable parts of the main parts containing the designated information shall be submitted.

4-1-3 Paper

(15) If paper to be used falls under a. to c. listed below, based on the provisions on quality control of each company, use of at least one or more type of paper shall be possible:

a. Applicable scope “PPC paper, business forms and coated paper for color printers (paper for ink jet printing)” of Eco Mark No. 106 “Paper for Communication Version 3”

b. Applicable scope “Printing paper (Excluding drawing papers included in the “writing and art papers” category designated in the “Paper and Pulp Statistics Annual Report” by the Ministry of Economy, Trade and Industry.) of Eco Mark No. 107 “Printing Paper Version 3”

c. [Information Paper] “Copier paper, forms, coated inkjet color printer paper”, and [Printing Paper] “Non coated printing paper, coated printing paper” of “2. Paper” of the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities

[Certification Procedure]
Compliance with this item, manufacturer’s name and brand shall be indicated in the Attached Certificate.

4-1-4 Packaging materials

(16) Plastic materials used for packaging of products shall not include as prescription constituents any halogen elements in their polymer backbones.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate.

(17) The packaging of products shall give consideration to ease of resource conservation, reuse, and recycling.

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate. In addition, the packaged state of products, packaging materials, raw materials used for these packaging, details for realizing resource saving, reuse, and recycling easily shall be indicated specifically (drawings and photographs can be used).

4-1-5 Criteria concerning manufacturing

(18) In manufacturing the applied 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 substances 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

past five years from the date of application (whether there is any violation) must be reported. If there is any violation, proper remedies and preventive measures shall 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 business of manufacturing the applied product or the relevant plant manager (entry or attachment of a list of names of the Environmental Laws, etc.) must be submitted. Form 142B-5
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).

(19) As for solvents, specific chlorofluorocarbons (five types of CFCs), other CFCs, carbon tetrachloride, trichloroethane, and CFC substitutes (HCFCs) listed in Table 3 shall not be used in the final manufacturing stage

[Certification Procedure]
Compliance with this item shall be indicated in the Attached Certificate.

Table 3. Substances prescribed in (19)

Specific CFCs (five types of CFCs)	Trichlorofluoromethane	Dichlorotetrafluoroethane
	Dichlorodifluoromethane	Chloropentafluoroethane
	Trichlorotrifluoroethane	
Other CFCs	Chlorotrifluoromethane	Pentachlorotrifluoropropane
	Pentachlorofluoromethane	Tetrachlorotetrafluoropropane
	Tetrachlorodifluoroethane	Trichloropentafluoropropane
	Heptachlorofluoropropane	Dichlorohexafluoropropane

	Hexachlorodifluoropropane	Chloroheptafluoropropane
	Carbon Tetrachloride	
	1,1,1-Trichloroethane	
CFC substitutes (HCFCs)	Dichlorofluoromethane	Dichloropentafluoropropane
	Chlorodifluoromethane	Chlorohexafluoropropane
	Chlorofluoromethane	Pentachlorofluoropropane
	Tetrachlorofluoroethane	Tetrachlorodifluoropropane
	Trichlorodifluoroethane	Trichlorotrifluoropropane
	Dichlorotrifluoroethane	Dichlorotetrafluoropropane
	Chlorotetrafluoroethane	Chloropentafluoropropane
	Trichlorofluoroethane	Tetrachlorofluoropropane
	Dichlorodifluoroethane	Trichlorodifluoropropane
	Chlorotrifluoroethane	Dichlorotrifluoropropane
	Dichlorofluoroethane	Chlorotetrafluoropropane
	Chlorodifluoroethane	Trichlorofluoropropane
	Chlorofluroethane	Dichlorodifluoropropane
	Hexachlorofluoropropane	Chlorotrifluoropropane
	Pentachlorodifluoropropane	Dichlorofluoropropane
	Tetrachlorotrifluoropropane	Chlorodifluoropropane
	Trichlorotetrafluoropropane	Chlorofluoropropane

4-2. Quality Certification Criteria and Certification Procedure

(20) The printing and processing capacity of a recycled ink cartridge shall be 90% or more of that of a new model of product of the same type.

[Certification Procedure]
Based on ISO/IEC24711 (Method for measurement) and ISO/IEC27412 (Images for measurement), the number of sheets to the service life (yield value) shall be measured and its ratio to the printing and processing capacity shall be described in the Attached Certificate. However, if the corresponding main body device is a printer only for photographs (L size), the test shall be based on JBMS-77 (Method for measurement) and JBMS-78 (Images for measurement), and a type of photo paper used in the test shall be described in the Attached Certificate. A quality certificate: Fill-out Form 142B-6 shall be submitted. The test shall be carried out by using printers of the same type.

(21) Quality shall be managed by the manufacturer's own standard, and guarantee for quality shall be provided for any defective quality such as defective printing, leakage of ink, nozzle clogging, and main body breakage. In addition, quality

control in the manufacturing stage shall be implemented sufficiently based on the quality control system.

[Certification Procedure]
Copies of documents attached to products describing guarantee for quality shall be submitted. If requested by the Examination Committee, documents for explaining the method of guarantee for quality shall be capable of being submitted together with the inspection data of the products.
A certificate and a declaration sheet issued by the manager of the plant for manufacturing products shall be submitted, certifying that, as for the quality control system in the manufacturing stage, quality control in the manufacturing stage is implemented based on the manufacturer's own standard, and that only the products that have been qualified in quality inspection shall be delivered. In addition, documents certifying that the quality control system is in order shall be submitted (if certified against ISO9001 or 9002, a copy of certificate shall be acceptable).

5. Product classification, indication and others
Omitted.

February 25, 2008	Established (Version1.0)
August 21, 2008	Revised (4-1-4(17), 4-2(19)) (Version1.1)
March 1, 2011	Revised (Indication (Version1.2)
October 1, 2011	Revised (4-1-3(15) added) (Version1.3)
May 1, 2012	Extension of Expiration date
October 1, 2012	Revised (6(3),(4) deleted) (Version1.4)
March 1, 20123	Revised (4-1-2(11)) (Version1.5)
February 28, 2020	Expiration date of the effective period

The certification criteria of this product category will be revised as necessary.

Appendix 1　3R Design Checklist [B. Recycled Ink Cartridge]

M-Requirement (Requirements which must be met)

Classification	No.	Requirements	Compliance	Remarks	Purpose
Material selection and marking	1	The coating of plastic components has been limited to the minimum (e.g. name of manufacturer). Laser markings shall not be considered as paintings. This requirement shall not apply to parts that have been proved as reused parts.	□Yes / □No	“Coatings” shall include the paint layers, vapor-deposited layers and printings.	Promoting reuse and recycling
Use for a prolonged period	2	Ink cartridges can be reused.	□Yes / □No	Reuse should not be prevented in terms of design.	Promoting reuse and recycling

S-Requirement　(Requirements which should be met)

Classification	No.	Requirements	Compliance	Remarks	Purpose
Material selection and marking	1	Coloring of components made from same plastic material have uniformity or conformity.　However, this shall not apply to coloring for making the components easier for consumers to identify in universal design, etc.	□Yes / □No	"Conforming coloring" refers to a different brightness in the same color.	Promoting reuse and recycling
	2	As for replaced components, proportional use of recycled plastic material is permitted.	□Yes / □No	“Permitted” means the use of recyclable material is permitted as long as such material meets the requirements provided in the specifications and is available. ‘Proportional’ means some available plastic components are appropriate. (This does not require all available components.)	Promoting reuse and recycling
	3	As for replaced components, recycled materials accounts for at least 5% of the total plastic weight.	□Yes / □No	"Total plastic weight" means the total weight of all applicable plastic parts. "Recycled materials" means, not the plastic parts that include recycled plastics, but recycled pellets themselves. The source of recycled pellets does not matter.　In other words, the recycled plastics do not have to be recycled pellets obtained from used ink cartridge parts; they may be any other recycled plastics including those from other products on the market.	Promoting reuse and recycling