



Green Label Product Recycled Plastics (TGL-01-R3-22)

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Recycled Plastics

1. Background

The role of plastic today is extremely important in our lives. which will be seen in the form of the product and various packaging with the good properties of most plastics, they are resistant to chemicals, do not rust, do not corrode, causing plastics to take a long time to decompose and constantly being disposed of as waste. This results in the residue of plastic in the environment, on the ground and in water, which may be dangerous to the organisms that live in the area. There was a blockage in the sewer pipe. Uses a lot of landfill space. It is also a source of visual pollution ruining the scenery. reusing Through the process of recycle and reuse is a good management method to solve the problem of plastic waste. To recycle plastic into the circular economy to increase the sustainable efficiency of resource use.

Therefore, the establishment of green label criteria for recycled plastics products. This is to promote the recycling of used plastics as raw materials for plastic production through the recycling process which is another option that reduce environmental impact, solve the problem of plastic waste left in the environment. and the best use of resources.

2. Scope

Recycled plastics products covers products containing 50 percent or more of plastic by weight, product groups as in Table 1.

Table 1: List of recycled plastics products group

Item	Products group	List of products
1	Construction and Road Materials	All materials used in the construction of various structures both a regular or movable such as artificial wood, formwork, Paving material/sidewalk
2	Traffic Management Products	Road Sign, bollard, stop sign, speed limit sign
3	Produce Containers	Containers for agricultural produce that are not yet ready for consumption such as egg panels, fruits crate
4	Non-food Containers	Bottle of detergent, bin, mobile garbage bin, pallets
5	Office Supplies	Office equipment and containers such dispenser holders, plastics insert, ring binders
6	General household products	household appliances such as buckets, clothes peg, clothes hangers, storage trays, drawers, chairs, tables.
7	Horticultural supplies	Gardening equipment such as plant pot, garden edging, garden cart, compost bins
8	Flexible packaging, film, and sheeting	Plastic sheet, geotextile, tree protectors, plastic bag for garbage , mulch film
9	Shrink Film	Shrink film, heavy product wrapping such as bottled water packs
10	Irrigation and agricultural equipment	Stormwater pipes, pipes and related equipment for transporting low pressure liquids such as irrigation pipes, sewer pipes/caps, ropes, fishnets, nets
11	Other	Carpet pads, trays, textiles such as clothing, carpets, fibers

This does not include plastic packaging used in contact with foodstuffs, drugs, cosmetics, plastic products that are children's toys and disposable plastic product

3. Definition

Recycled plastic refer to post-consumer plastic or post-industrial waste without being made from materials contaminated with toxic substances or dangerous substances or toxic or dangerous solid waste

Post-consumer material refers to used materials from household, commercial, industrial and service activities as finished products that are used by the final consumer. This includes material returned from the shipping and distribution system¹

Hazardous waste refers to solid waste that contains or is contaminated with anything in a manner that is harmful or has properties that are harmful to the environment or public health.

Disposable plastic product refers to products designed for single-use purposes such as U-shaped plastic carry bags.

Shrink Film refers to processed plastic film is drawn in one or both directions and then use it to wrap around the product or packaging under heated condition. This film will shrink to its original dimensions. and strapped around the product or package

Letter for declaration of compliance refers to a document issued by the applicant or manufacturers to ensure environmental requirements' compliance for respective products.

Certificate refers to a document issued by a certification body, which has been accredited by the Nation Accreditation Council (NAC) or International Accreditation Forum (IAF).

Legally Authorized person refers the person authorize to signed under Civil and Commerce Law

4. General requirements

4.1 Recycled plastic products must meet at least one of the following requirements:

4.1.1 In case the product is support by Thai Industrial Standard. (TIS)

4.1.1.1 The product must be certified in accordance with the relevant industrial product standards for the product submitted for certification.

¹ Draft NTC 9 -2 5 6 5 , National Inspection and Certification Standards Recycling Traceability and Conformity Assessment and Recycled Ingredients-Requirements Thai Industrial Standards Institute

Verification method

The applicant shall submit an industrial product standard certificate related to the product applied for certification.

- 4.1.1.2 The product shall be tested to the required specifications in accordance with the relevant industrial product standards for the product submitted for certification.

Verification method

The applicant shall submit testing report that meet the required qualification criteria set out in the industrial product standard applicable to the product applied for certification.

- 4.1.2 In case the product is not supported by Thai Industrial Standards (TIS), the product must be tested according to the required specifications according to the accepted national standards such as ASTM or JIS or regional standards such as EN or international standards.

Verification method

The applicant shall submit testing report that meet the required specifications set forth in national standards such as ASTM or JIS, or regional standards such as EN or international standards.

- 4.1.3 In the case of products applying for certification not subject to clause 4.1.1 to clause 4.1.3. The applicant must take the product for quality testing by comparison with the same products made from new plastics or other materials. which products that apply for certification. It must be of equal or better quality than the products that are compared. Therefore, it is considered to meet the criteria in 4.1.4.

Verification method

The applicant shall submit a document showing the results of a quality test that compares with the product of the same type made of new plastic or other types of materials It is appropriate to choose the same type of product made of new plastic or other materials that comparison with products submitted for certification, it is at the discretion of the technical review panel to approve the use of the green label.

- 4.2 Production, transportation and disposal of waste from production processes must comply with the laws and regulations of government agencies or the factory that produces it must be a ISO 14001 environmental management system certified.

Verification method

The applicant must submit one of the following evidences:

1. License or evidence that the production, transportation and disposal of waste generated by the process produced in accordance with the laws and regulations of the government; or
2. ISO 14001 certificate

Remark: In the case of products imported into the factory, they must be certified with ISO 9001 (Quality Management System) and ISO 14001 (Environmental Management System)

5. Environmental requirements

5.1 Recycled plastic products must have a proportion of plastic waste and/or waste materials from the manufacturing process in plastics that meet the following criteria:

Table 2: Proportion of plastic waste and/or waste from production processes in plastics

Item	Product Group	List of products	Proportion of plastic waste and/or waste from production processes in plastics (by plastic weight)
1	Construction and Road Materials	All materials used in the construction of various structures both a regular or movable such as artificial wood, formwork, Paving material/sidewalk	not less than 50%
2	Traffic Management Products	Road Sign, bollard, stop sign, speed limit sign	not less than 50%
3	Produce Containers	Containers for agricultural produce that are not yet ready for consumption such as egg panels, fruits crate	not less than 40%
4	Non-food Containers	Bottle of detergent, bin, mobile garbage bin, pallets	not less than 40%
5	Office Supplies	Office equipment and containers such dispenser holders, plastics insert, ring binders	not less than 40%
6	General household products	household appliances such as buckets, clothes peg, clothes hangers, storage trays, drawers, chairs, tables.	not less than 50%
7	Horticultural supplies	Gardening equipment such as plant pot, garden edging, garden cart, compost bins	not less than 75%
8	Flexible packaging, film, and sheeting	Plastic sheet, geotextile, tree protectors, plastic bag for garbage , mulch film	not less than 30%
9	Shrink Film	Shrink film, heavy product wrapping such as bottled water packs	not less than 25%
10	Irrigation and agricultural equipment	Stormwater pipes, pipes and related equipment for transporting low pressure liquids such as irrigation pipes, sewer pipes/caps, ropes, fishnets, nets	not less than 50%
11	Other	Carpet pads, trays, textiles such as clothing, carpets, fibers	not less than 90%

Verification method

The applicant shall submit a certificate certifying that the type and quantity of ingredients used in the manufacturing process of the recycled plastic product are derived from post-consumer plastic and/or post-industrial waste in accordance with 5.1, which the certificate must be signed by the managing director or the authorized signatory of the company or the person who has the authority to sign under the juristic certificate of the applicant company and seal the company's seal

- 5.2 Plastics that are constituents in recycled plastic products must meet the following criteria for heavy metal content:
- 1) Mercury, lead and chromium (+6) each substance not exceeding 1000 mg/kg in homogeneous materials.
 - 2) Cadmium not more than 100 mg/kg in homogeneous material.

Verification method

The applicant shall submit the test results for heavy metals in plastics according to the test methods specified in IEC 62321 or other test methods capable of testing the content of heavy metals in plastics.

- 5.3 Must not use additives in the production of recycled plastic products as follows:
- 5.3.1 Heavy metals such as arsenic, copper
 - 5.3.2 Halogenated organic substances and halogenated organic solvents such as fluoropolymer additives CFC HCFC HFC methylene chloride
 - 5.3.3 1,3 butadiene not more than 1 mg/kg
 - 5.3.4 Phthalates
 - 1) Bis (2-ethylhexyl) phthalate (DEHP)
 - 2) Dibutyl phthalate (DBP)
 - 3) Diallyl phthalate (DAP)
 - 4) N-butyl benzyl phthalate (BBP)
 - 5.3.5 PBB (polybrominated biphenyl)
 - 5.3.6 PBDE (polybrominated diphenyl ether)
 - 5.3.7 Chloroparaffins with chains in the range of 10-13 carbon atoms and more than 50% by weight of chlorine.
 - 5.3.8 Polyurethane foam produced from organic halogenated blowing agents, used as whole or partial blowing agents of organic halogenated blowing agents.
 - 5.3.9 Substances defined in Regulation (EC) No 1272/2008 as follows:
 - 1) H 350 (may cause cancer)

- 2) H 340 (may cause genetic defects)
- 3) H 372 (causes damage to organs through prolonged or repeated exposure)
- 4) H373 (may cause damage to organs through prolonged or repeated exposure)
- 5) H 360 (may damage the unborn child)
- 6) H 361d (suspected of damaging the unborn child)
- 7) H 341 (suspected of causing genetic defects)

Verification method

The applicant shall submit a certificate convincing that they do not use the additive specified in environment requirement 5.3 in the production of recycled plastic products. The certificate must be signed by the managing director or the authorized signatory of the manufacturing company or the authorized signatory under the juristic certificate of the applicant company and seal the company's seal.

- 5.4 Substances used as blowing agents in the production of recycled plastic products must have an Ozone Depleting Potential (ODP) of zero.

Verification method

The applicant shall submit a certificate certifying that the substance used as a blowing agent in the production of recycled plastic products has an ODP of zero. The certificate must be signed by the managing director or the authorized signatory of the manufacturing company or the authorized signatory under the juristic certificate of the applicant company and seal the company's seal.

- 5.5 Recycled plastic products must have a symbol indicating the type of plastic according to the industrial standard. Symbol for recycled plastic, TIS 1310 or an abbreviation indicating the type of plastic according to ISO 1043 or ISO 11469 standard.

Verification method

The applicant must provide a certificate that can be believed to have a plastic type symbol on the product. According to the Industrial Standards Symbol for Recycled Plastics Standard, TIS. 1310 or an abbreviation indicating the type of plastic in accordance with ISO 1043-1 or ISO 11469 standard. The certificate must be signed by the managing director or the authorized signatory of the manufacturing company or the authorized signatory under the juristic certificate of the applicant company and seal the company's seal.

5.6 In the case of recycled plastic products made from PVC plastic, a “do not burn” logo must be attached.

Verification method

In the case of recycled plastic products made from PVC plastic, the manufacturer/applicant must submit evidence and a certificate that believes that the product has a "do not burn" logo, which the certificate must be signed by the managing director or authorized signatory. of the manufacturing company or the authorized signatory under the juristic person certificate of the applicant company and seal the company's seal

5.7 Packaging for recycled plastic products (if applicable)

5.7.1 Paper packaging must be green label certified to meet the Green Label Criteria for Paper Products (TGL-8) or pass tests that meet the special requirements of the Green Label Criteria for that paper used for packaging (except for packaging environmental requirements)

Verification method

The applicant shall either submit a green label certificate for that paper or submit a test result that meets the environmental requirements of the green label criteria for that paper used for packaging.

5.7.2 Plastic packaging there must be a symbol indicating the type of plastic in accordance with the Industrial Standards symbol for recycled plastics, TIS 1310 or abbreviations indicating the type of plastic in accordance with ISO 1043 or ISO 11469 standard.

Verification method

The applicant shall provide evidence and a certificate convincingly that it has a symbol indicating the type of plastic used according to the Industrial Standards Symbol for Recycled Plastics Standard, TIS. 1310 or there is a mark indicating the type of plastic according to ISO 1043 or ISO 11469, which the certificate must be signed by the managing director or the authorized signatory of the manufacturer or the person who has the authority to sign according to certificate of juristic person of the applicant company and seal the company's seal

5.7.3 Plastic packaging made of PVC plastic, manufacturers must submit a certificate to ensure that the logo is not incinerated on PVC plastic. The certificate must be signed by the managing director or the company's authorized signatory of the manufacturer or authorized signatory according to the juristic person certificate of the applicant company and seal the company's seal

Verification method

The applicant must provide evidence and submit a certificate to ensure that the logo is not incinerated on PVC plastic. The certificate must be signed by the managing director or the company's authorized signatory of the manufacturer or authorized signatory according to the juristic person certificate of the applicant company and seal the company's seal

5.7.4 Must contain heavy metals such as mercury, lead, cadmium and chromium (+6) caused by impurity and contaminating ink, paint or pigment used to print on packaging, or labels attached to the packaging total not more than 100 milligrams per kilogram

Verification method

Inks, paints or pigments used for printing on the packaging or labeling on the packaging. The applicant must submit heavy metal test results, including:

- 1) Mercury content test according to ISO 3856-7 or ASTM D 3624 test method.
- 2) Lead content test according to ISO 3856-1 or ASTM D 3335 test method.
- 3) Cadmium content according to ISO 3856-4 or ASTM D 3335 test method.
- 4) Chromium (+6) content according to ISO 3856-5 test method.

or IEC 62321 or another test method capable of testing mercury, lead, cadmium and chromium (+6) in inks, paints or pigments printed on packaging, or labels attached to the packaging

5.8 There are guidelines to promote the waste management from the production or usage, such as

- There is a take-back system in the production process to recycle waste raw materials, products or goods that have been disposed of which can still be used back into the new process to reduce waste as much as possible²
- Designing products or components in products for longevity and facilitates easy recycling after it cannot be used
- Planning or a guideline for purchasing end-of-life products of the product manufacturers, etc.

Verification method

The applicants shall submit evidence of waste management practices along with at least one example of the implementation of such guidelines, which such documents must be signed by the managing director or the authorized signatory of the manufacturing company or the authorized signatory according to the juristic person certificate of the applicant company and stamped company seal.

6. Testing and Certificate

6.1 Testing

6.1.1 Laboratory with the competence of testing and calibration by TIS 17025 Standard or ISO/IEC 17025 or a laboratory registered with Green Label only (RR-203)

6.1.2 Testing result

6.1.2.1 The testing report that the method specified in the green label requirements.

6.1.2.2 In case, the applicant submits the testing report with according to other test methods equivalent to the method specified in the green label requirements, the applicant shall submit the document as follow;

- 1) The certified signature document of the apply product from the laboratory that equivalent with test method standard specified in the green label requirements
- 2) The method validation document of the product specified in the green label requirements.

² http://www.oie.go.th/assets/portals/1/files/study_report/DevelopThaiIndustries_CircularEconomy.pdf

6.1.2.3 The test report must not be more than 3 years up to the date of application for green label certification

6.2 Certificate of compliance with green label requirements

6.2.1 The certificate shall not exceed 1-year duration since the apply date

6.2.2 The certificate signed by legally authorized person and stamped with the company hallmark (if any)

6.3 The accompanying word under the green label symbol shall indicate the text corresponding to the test in clause 5.1 as shown in Figure 1. The form of the green label mark symbol and the accompanying word under the green label mark symbol to be in accordance with the rules and conditions for using the green label certification mark



Figure 1: Example of a green label symbol pattern and the amount of recycled plastic.