

 Green Mark	<h2>Bio-plastic Products</h2>	No. 157
<p>1. Scope</p> <p>This standard is applicable to products made from/of plastics containing bio-based extracts from biomass materials, but excludes biodegradable plastics.</p> <p>2. Terms and definitions</p> <p>For this standard, the following terms and definitions shall apply.</p> <p>(1) Bioplastics: Plastic materials made using modified biomass resource as the raw materials, with the same composition as the petroleum-based plastic materials.</p> <p>(2) Bio-based: The bio-based content of the bio-plastic can be determined through the use of ASTM D6866 in determining product’s bio-carbon content, and confirmed whether the product is at least partially blended with biomass sourced materials, instead of made of/from pure petroleum-sourced materials.</p> <p>(3) Polybrominated biphenyls (PBBs): Include monobromobiphenyl, dibromobiphenyl, tribromobiphenyl, tetrabromobiphenyl, pentabromobiphenyl, hexabromobiphenyl, heptabromobiphenyl, octabromobiphenyl, nonabromobiphenyl, and decabromobiphenyl.</p> <p>(4) Polybrominated diphenylethers (PBDEs): Include monobrominated diphenylethers, dibrominated diphenylethers, tribrominated diphenylethers, tetrabrominated diphenylethers, penntabrominated diphenylethers, hexabrominated diphenylethers, heptabrominated diphenylethers, octabrominated diphenylethers, nonabrominated diphenylethers, and decabrominated diphenylethers.</p> <p>3. Product characteristics</p> <p>3.1 The product’s bio-based content shall comply with the regulatory limit.</p> <p>3.2 The product shall be made of single materials and shall not use halogenated plastics.</p> <p>Plastic components or parts weighing more than 25 g shall meet the requirements of ISO 11469 regarding labeling in prominent areas to indicate the composition code.</p>		Category No. E-03
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3.3 The product shall not contain cadmium, lead, hexavalent chromium, mercury, polybrominated biphenyls, polybrominated diphenyl ethers and short-chain chlorinated paraffins, and their measured contents shall comply with the regulatory limits.

3.4 The product or its manufacturing processes shall not use substances stipulated by the Taiwan EPA as toxic substances, and substances controlled by the Montreal Protocol.

4. Test methods and regulatory limits

The regulated substances and regulatory limits for this standard are listed below. The applicable test methods shall be the national, international or specific industry standard methods, and the test reports shall be issued by accredited professional testing organizations.

Applicable Part	Regulated Substance	Regulatory Limit	Referenced Test Method
Product	Bio-based content	$\geq 25\%$	ASTM D6866 DIN ISO 10694
Product	cadmium	$< 2 \text{ mg/kg}^*$	NIEA M353 NIEA M301 CNS 15050 US EPA 3051A US EPA 3050B US EPA 3052
Product	lead	$< 2 \text{ mg/kg}^*$	NIEA M353 NIEA M301 CNS 15050 US EPA 3051A US EPA 3050B US EPA 3052
Product	hexavalent chromium	$< 3 \text{ mg/kg}$	NIEA T303 CNS 15050 US EPA 3060 US EPA 7196
Product	mercury	$< 2 \text{ mg/kg}^*$	NIEA M317 NIEA M318 CNS 15050 US EPA 7471 US EPA 7473 US EPA 3052
Product	polybrominated biphenyls,	$< 10 \text{ mg/kg}^*$	CNS 15050 US EPA 8270 IEC 62321
Product	polybrominated diphenyl ethers	$< 10 \text{ mg/kg}^*$	CNS 15050 US EPA 8270 IEC 62321
Product	short-chain chlorinated paraffins	$< 10 \text{ mg/kg}$	US EPA 3540 US EPA 8081 US EPA 8082 US EPA 8270 IEC 62321

*: The test reports shall provide evidence that the employed test methods have detection limits of less than 1/3 of regulatory limits.

5. Packaging

The materials of the product packaging shall meet the requirement of the “Guidelines on Review of Applications for Qualified Environmental Protection Products”.

6. Labeling

6.1 The name, address and consumer hotline of the Green Mark user shall be clearly marked on the product or its packaging.

6.2 The product or packaging shall bear a label reading "XX% Bio-based Content", "Low Pollution" and "Recyclable".

7. Other Requirements

Products are considered the same if they have the same product formulation, but differ only in shape, size or packaging content.