

**Standard Operating Procedure (SOP) for issuing
Certificate to Manufacturers/Sellers of
Biodegradable Plastic Carry Bags and Commodities
(Rule 4(h) of Plastic Waste Management (PWM) Rules, 2016)**



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Central Pollution Control Board
Delhi**

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**Standard Operating Procedure (SOP) for Issuing Certificate
to Manufacturers/Sellers of Biodegradable Plastic Carry Bags and
commodities or both**

(Rule 4(h) & Rule 10 of Plastic Waste Management (PWM) Rules, 2016)

1.0 Introduction

Biodegradable plastics as per Rule 3 (ac) of PWM Rules is *“plastics, other than compostable plastics, which undergoes degradation by biological processes under ambient environment (terrestrial or in water) conditions, without leaving any micro plastics, or visible, or distinguishable or toxic residue, which has adverse environment impacts, adhering to laid down standards of Bureau of Indian Standards and certified by the Central Pollution Control Board”*.

As per the Rule 4(h) (Conditions) of PWM Rules, 2016, the manufacturers or sellers of biodegradable plastics carry bags or commodities or both have to obtain certificate from the Central Pollution Control Board before marketing or selling biodegradable plastics carry bags or commodities or both.

The protocol for biodegradable plastic materials as per the fifth Amendment to Rule 10 of PWM Rules dated July 06, 2022 (**Annexure I**) is as given below:

- (1) Determination of the degree of degradability and degree of disintegration of plastic material shall be as per the protocols of the Indian Standards listed in Schedule I.
- (2) The biodegradable plastics shall conform to the standard notified by the Bureau of Indian Standards and certified by the Central Pollution Control Board.
- (3) Until a standard referred to in sub-rule (3) is notified by the Bureau of Indian Standards, biodegradable plastics shall conform to tentative Indian Standard IS 17899 T:2022 as notified by the Bureau of Indian Standards (**Annexure II**).
- (4) As a transitory measure, provisional certificate for biodegradable plastics, shall be issued by the Central Pollution Control Board, in cases, where an interim test report is submitted, for an ongoing test, which covers

the first component of the IS 17899 T:2022 relating to biodegradability given at Sl. No. (i) or Sl. No. (ii) of Table 1 or Sl. No. (i) of Table 2 of the IS17899 T:2022: Provided that the provisional certificate shall be valid till 30th June, 2023 with the condition that the production or import of biodegradable plastics shall cease after the 31st day of March, 2023.

(5) The interim test report shall be obtained from the Central Institute of Petrochemical Engineering and Technology or a laboratory recognised under the Laboratory Recognition Scheme, 2020, of the Bureau of Indian Standards or laboratories accredited for this purpose by the National Accreditation Board for Testing and Calibration Laboratories, and they shall certify the bio-degradation of plastic is in line with IS 17899 T:2022.

The SOP for issuing of Certificate to manufacturers & sellers of biodegradable plastics is in accordance with above provisions of PWM Rules

2.0 SOP for issuance of Certificate

2.1 Submission of application

- i. The manufacturer/seller of biodegradable plastic carry bags and commodities can apply to CPCB for the registration in Form-A (Manufacturer) (**Annexure III**) and Form-B (Seller) (**Annexure IV**), along with the prescribed documents.
- ii. Application along with digitally signed documents to be submitted by email on upc2.cpcb@gov.in till the online portal is developed for the same.
- iii. A confirmatory e-mail be sent to the applicant **within three working days** of receipt of the application by CPCB.

2.2 Guidance for Filling Application for manufacturer (Form-A)

S.No.	Item	Detail
1	Address	
	A Plant Address	Mention the manufacturing unit address
	B Postal Address	Mention the Postal address
	C Unit's PAN	Mention the PAN details and provide

S.No.	Item	Detail	
		supporting document	
	D	Unit's GST	Mention the GST details and provide supporting document
		<u>Authorized person details</u> Name Designation Email Phone no. Aadhar No.	Mention the details in the form and provide supporting documents wherever applicable
	E	GPS location of the unit	GPS location of the unit be mentioned.
	F	Plot Area of Facility	Area of the manufacturing unit in Square meters to be provided.
2	A	Registration from concerned SPCB/PCC	-In accordance with Rule 13(1) of PWM Rules, Registration issued by the concerned SPCB/PCC for manufacturing of Biodegradable Plastic has to be provided -The Registration should be valid on the date of submission of the application
3	Production details		
	A	Raw material used (bio-based/non-bio based, nature of additive used etc.);	-Name of raw material used -Documents supporting procurement of raw material to be provided (tax invoice etc.)
	B	Manufacturing process along with flow diagrams	Detailed process flow diagram indicating <u>input raw material, process steps, final products</u> and waste streams to be clearly indicated on the process flow diagram. Process Flow should match with details provided at 3 A above.

S.No.	Item	Detail	
	C	Details of end products and by-products	Details of Biodegradable products proposed to be manufactured at the plant
	D	Plant capacity for manufacturing Biodegradable plastics(TPD)	- As per Consent to operate issued by SPCB - To be provided as per Consent/Registration to operate issued by SPCB
	E	Pictures/ Short video of facility to be uploaded with geo tagging <ul style="list-style-type: none"> • Raw material Area • Production Process • Product dispatch Area 	Separate photograph from each section (Raw material Area, Production process and dispatch) along with geo tagging to be uploaded. Short video of the plant to be uploaded. GPS location indicated on the photographs to match with the GPS location of the unit. The pictures / video should match with details provided at Section 3 (A, B, C& F)
	F	Details of plant Machinery	Details of plant machinery for the production of Biodegradable plastics. The plant machinery should match with with details provided at Section 3 (A, B, C&E) –. GPS location indicated on the photographs to match with the GPS location of the unit
	G	Name of Machine No. Capacity(TPA) Power rating of machine Operating Hours Upload Picture	Details to be mentioned in the form and upload supporting documents wherever applicable
	H	Sanctioned power load of the plant	Should match with the power rating of the machinery (3 F)

S.No.	Item	Detail
4	A Biodegradable Plastics Test reports which covers the first component of the IS 17899 T:2022 a. IS/ISO 14851 or IS/ISO 14852: Ultimate aerobic biodegradability of plastic materials in an aqueous medium Or b. IS/ISO 17556 : Ultimate Aerobic Biodegradation of Plastic materials in soil, <i>Min</i> Or c. IS/ISO 15985 or IS/ISO 14853 : Ultimate Anaerobic Biodegradation, <i>Min</i>	-Sample manufactured at the unit to be certified, to be sent for testing -Testing has to be done at CIPET or a laboratory recognised under the Laboratory Recognition Scheme, 2020, of the Bureau of Indian Standards or laboratories accredited for this purpose by the National Accreditation Board for Testing and Calibration Laboratories. -Testing of bio degradability of plastics shall be in line with the IS/ISO 17899:2022. -Name & Address of the unit, Date of submission of sample to the testing agency to be clearly indicated on the test report.
5	A Valid Consent Order(Air & Water) from concerned SPCB/PCC	-In accordance with Rule 13(5) of the PWM Rules -The Consent should be valid on the date of submission of the application
6	A Details of pollution control measures.	Measure for control of Air & water pollution and solid waste to be specified

2.3 Guidance for Filling Application for Seller (Form-B)

S.No	Item	Details			
1	<u>Seller Details</u> Name Email id Phone No. Aadhar	Mention the details in the form and upload supporting documents wherever applicable.			
2	<u>Business Details</u> Business Address GST No PAN IEC Code (for import)	For all submitted documents (PAN, GST, IEC(in case of import) Soft Copy of these Documents to be provided			
	Additional details (for import)	Name of the country & Address of manufacturing unit located abroad from where the seller proposes to import of Biodegradable carry bags/ commodities.			
3	Procurement Details				
S.No.	Name and Address of manufacturer for procurement of Biodegradable plastic bags/ commodities	Quantity proposed to be procured(TPA)	Details of Dealers, Stockists and Users of the product	Name of Product	Test reports as per Indian Standards IS/ISO 17899: 2022(In case of Import only)
	A	B	C	D	
i	Name and address of manufacturers of biodegradable bags/commodities from whom the seller proposes to procure.	- Propose of quantity of	- Details of Dealers, stocklists and users	-Products details which is to be marketed.	-Testing has to be done at CIPET or a laboratory recognised

Standards Operating Procedure (SOP) for Certification of Biodegradable plastic

S.N o	Item	Details		
	<p>Following documents to be submitted</p> <p>(a) Certificate issued by CPCB as per Rule 4 (h) of PWM Rule</p> <p>(b) Registration issued by SPCB/PCC under Rule 13(1) of the PWM Rules for manufacture of Biodegradable bags/ commodities</p> <p>(c) Authorization letter issued by CPCB certified manufacturer</p> <p>Soft copy of above documents to be uploaded</p> <p><u>For imports following documents is to be given</u></p> <p>a. <u>Name, address (including Country of Origin) of the manufacturer from whom the Seller wishes to procure the biodegradable plastic</u></p> <p>b. <u>Letter of Authorization issued by the manufacturer</u></p>	product to be procured from CPCB certified	of the product.	under the Laboratory Recognition Scheme, 2020, of the Bureau of Indian Standards or laboratories accredited for this purpose by the National Accreditation Board for Testing and Calibration Laboratories.

2.4 Checklist of Documents required for Certification

2.4.1 Manufacturers

Checklist of Documents required for Certification of Biodegradable plastic manufacturer is given below:

- i. PAN & GST of the Company
- ii. Aadhar of Authorized person
- iii. Process flow diagram
- iv. Consents under Air / Water Act issued by SPCB/ PCC
- v. Registration Certificate for production of Biodegradable carry bags or commodities or both issued by concerned SPCB/PCC under Rule 13(i) of Plastic Waste Management Rules,2018
- vi. Geo-tagged pictures of raw material storage area, production area and product dispatch area
- vii. Geo-tagged pictures of plant machinery
- viii. Copy of Electricity Bill
- ix. Copy of document giving details of pollution control measures
- x. Documents supporting procurement of raw material (Tax invoice etc).
- xi. **Test reports as per Indian Standards IS/ISO 17899: 2022.** -Testing has to be done at CIPET or a laboratory recognised under the Laboratory Recognition Scheme, 2020, of the Bureau of Indian Standards or laboratories accredited for this purpose by the National Accreditation Board for Testing and Calibration Laboratories.

2.4.2 Seller

- i. PAN & GST of the Company
- ii. Aadhar of Authorized person
- iii. Copy of Registration issued by concerned SPCB/PCC to the certified CPCB manufacturer(Refer Section 2.3 above)
- iv. Copy of certificate issued by CPCB to the concerned manufactures
- v. Authorization letter issued to the seller from the concerned manufacturer.
- vi. **Test reports as per Indian Standards IS/ISO 17899: 2022.** -Testing has to be done at CIPET or a laboratory recognised under the Laboratory Recognition Scheme, 2020, of the Bureau of Indian Standards or laboratories

accredited for this purpose by the National Accreditation Board for Testing and Calibration Laboratories.(To be submitted only in case of import of biodegradable carry bag/commodities)

- vii. IEC code (in case of import of biodegradable carry bag/commodities)

2.5 Processing of application

- i. The application shall be examined by CPCB and queries, if any, shall be communicated to the applicant within seven working days of receipt of the application.
- iii. Applications shall be rejected, if false/ irrelevant information /document is found to be submitted.

2.6 Issuing of Certificate:

Provisional Certificate shall be issued based interim test report is submitted, for an ongoing test, which covers the first component of the IS 17899 T:2022 relating to biodegradability given at Sl. No. (i) or Sl. No. (ii) of Table 1 or Sl. No. (i) of Table 2 of the IS17899 T:2022: to manufacturer/seller. Copy of the Certificate shall be provided to the concerned SPCB/ PCC. Format of certificate of manufacturer and seller is given in **Annexure V and Annexure VI** respectively.

- i. The provisional certificate shall be valid till 30th June 2023 with the condition that production or import of biodegradable plastics shall cease after the 31st day of March, 2023.The Consent to produce Biodegradable plastics shall be operative till March 31, 2023
- ii. The manufacturers producing Plastic packaging shall register as producer on EPR Portal. He shall fulfil his EPR liability as per notified EPR Guidelines in case final testing of biodegradability as per IS/ISO 17899:2022 fails.
- iii. The Single Use Plastic item producing manufacturers shall provide monthly details of productions & sales up till June 30, 2023 and in case the samples fails, Environmental Compensation shall be levied based upon polluter pays principle for the intervening period.
- iv. The certificate issued by CPCB shall be valid unless it is revoked for violation of conditions stipulated in the Certificate. However, if there is a there is a

change in raw material/ production process or product, fresh application shall be filed to CPCB for issuing of fresh certificate.

- v. If the unit does not have a valid registration from the SPCB/PCC (for the SUP item manufacturers) then the certificate shall be issued with the condition that the manufacturer/seller shall manufacture/sell the Biodegradable carry bags or commodities or both only after they obtain a valid Registration for manufacturing of Biodegradable carry bags or commodities or both from concerned SPCB/PCC. The Registration should be submitted to CPCB within 03 months of issue of the Certificate by CPCB, failing which the Certificate shall stand cancelled.

2.7 Monitoring Mechanism

- i. Each plastic carry bag or commodities or both and multi-layered packaging shall have the information related to name and certificate number of manufacturer[Rule 4(h)] in case of carry bags or commodities or both made from compostable plastic and biodegradable plastics printed in English on the bag in accordance with 11(1) of PWM Rules.
- ii. In addition, the manufacturer shall generate QR code based on the details provided in the certificate issued by CPCB and QR code shall be provided on each of the carry bag or commodities or both manufactured at the certified unit. The details of the QR code (email/password, Name, plant address, CPCB certificate no. etc.) shall be shared with the SPCB/PCC/CPCB.”.
- iii. The Manufacturer/ seller shall provide six-monthly report, giving details of raw material procurement and product sale including GST details to CPCB as per the format at **Annexure- VII**
- iv. Field verification of the units shall be carried out by SPCB/PCC covering at least 10% of the units in their States/UTs bi-annually. The format for field verification is placed at **Annexure VIII**.
- v. Random checks of consignments in case of import of biodegradable plastics to be carried out by the concerned authorities.
- vi. Market survey shall be carried out to ensure availability of certified biodegradable carry bag or commodities or both at the consumer end
- vii. SPCBs/PCCs shall submit the six- monthly compliance report covering point i-v, to CPCB as per the format at **Annexure- IX**

- viii. CPCB shall independently conduct field verification of the certified units annually as per prescribed format (**Annexure VII**) and market survey to assess the compliance of the PWM Rules w.r.t manufacture and sale of Biodegradable plastics.
- ix. If at any stage, the manufacturer and seller of biodegradable bags and commodities is found to be violating the stipulated norms, the certificate issued by CPCB, shall stand cancelled.

2.8 Cancellation of Certificate

- i. CPCB may cancel or suspend the certificate of the manufacturer/seller, in case the manufacturer fails to comply with any of the conditions of the certificate.
- ii. If any manufacturer/seller, is found to be violating the provision of certificate, during random checking by CPCB or based on verification by SPCBs, a notice shall be issued by CPCB.
- iii. An opportunity will be given to hear the manufacturer/seller within fifteen days from the date of issuance of notice; prior to considering the case for cancellation or suspension of Certification by CPCB.
- iv. The decision on cancellation or suspension of authorization will be intimated within 10 working days after hearing.
- v. In case of forged/irrelevant document are submitted with application, then the application shall be rejected.
- vi. Chairman CPCB will be the final authority for taking decision on cancellation or suspension.

2.9 Applicability of SOP

- i. SOP shall be applicable to all applications received after the date of issue of this SOP.



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अधिसूचना

नई दिल्ली, 6 जुलाई, 2022

सा.का.नि. 522(अ).—प्लास्टिक अपशिष्ट प्रबंधन नियम, 2016 का और संशोधन करने के लिए प्रारूप नियम अधिसूचना सं. सा.का.नि. 22(अ) तारीख 18 जनवरी, 2022 द्वारा भारत के राजपत्र, असाधारण, भाग II, खंड 3, उप-खंड (i) में तारीख 18 जनवरी, 2022 को प्रकाशित की गई थी, जिसमें उन सभी व्यक्तियों से जिनकी प्रभावित होने की संभावना उक्त प्रारूप नियमों को अंतर्विष्ट करने वाले राजपत्र की प्रतियां जनता को उपलब्ध कराई गई थी जिसके साठ दिनों के भीतर आपत्तियां और सुझाव आमंत्रित किए गए थे;

और, उक्त प्रारूप नियमों अंतर्विष्ट करने वाले राजपत्र की प्रतियां जनता को तारीख 18 जनवरी, 2022 को उपलब्ध कराई गई;

और, उपरोक्त अवधि के भीतर प्राप्त आपत्तियों एवं सुझावों पर केंद्रीय सरकार द्वारा सम्यक रूप से विचार किया गया है;

अतः अब, केंद्रीय सरकार पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3, धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, प्लास्टिक अपशिष्ट प्रबंधन नियम, 2016 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात:-

1. संक्षिप्त नाम और प्रारंभ:- (1) इन नियमों का संक्षिप्त नाम प्लास्टिक अपशिष्ट प्रबंधन (द्वितीय संशोधन) नियम, 2022 है।

(2) वे राजपत्र में अपने प्रकाशन की तारीख से प्रवृत्त होंगे।

2. प्लास्टिक अपशिष्ट प्रबंधन नियम, 2016 (जिसे इसके पश्चात् उक्त नियम कहा गया है), नियम 3 में,-

(i) खंड (कख) के पश्चात्, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-

‘(कग) “जैव-अवक्रमणीय प्लास्टिकों” से, कंपोस्टेबल प्लास्टिक के सिवाय ऐसे प्लास्टिक अभिप्रेत है, जो केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा प्रमाणित और भारतीय मानके ब्यूरो के अधिकांशतः मानकों का अनुपालन करते हुए, किन्हीं माइक्रो प्लास्टिकों, या स्पष्ट रूप से दृश्य या अलग करने योग्य या विषाक्त अवशेष, जिनका पर्यावरण पर प्रतिकूल प्रभाव पड़ता है, छोड़े बिना, परिवेशी पर्यावरणीय (स्थलीय या जलीय) दशाओं के अधीन जैविक प्रक्रियाओं द्वारा अवक्रमित हो जाता है-;’

(ii) खण्ड (ख) में, “ब्रांड लेवल्स;” शब्द, के पश्चात् “और ट्रेडमार्क।” शब्द अंतःस्थापित किया जाएगा;

(iii) खंड (ग) में “अर्थात् तैयार की गई थैलियां” शब्दों से पूर्व “(अनुसूची-2 में दिए गए खंड (5.1) (ii) – प्लास्टिक पैकेजिंग की श्रेणी-11 के अधीन शामिल)” शब्द और कोष्ठक अंतःस्थापित किए जाएंगे।

(iv) खण्ड (छक) को “(छख)” के रूप में पुनःसंख्यांकित किया जाएगा और इस प्रकार पुनःक्रमांकित किए गए खंड (छख) से पूर्व निम्नलिखित खण्ड अंतःस्थापित किया जाएगा, अर्थात्:-

‘(छक) “उपयोग की अवधि समाप्त होने पर निपटान” से प्रवृत्त सुसंगत दिशानिर्देशों के अध्याधीन ऊर्जा उत्पादन के लिए प्लास्टिक अपशिष्ट का उपयोग, जिसमें सह-प्रसंस्करण (उदाहरण के लिए सीमेंट, इस्पात या कोई अन्य ऐसे उद्योग में) या अपशिष्ट से तेल उत्पादन, उन मामलों को छोड़कर जिनमें फीडस्टॉक रसायनों का उत्पादन प्लास्टिक के उत्पादन में पुनः उपयोग हेतु किया जाता है जिस पर पुनर्चक्रण के अधीन विचार किया जा सकता है, या भारतीय सड़क कांग्रेस द्वारा जारी मार्गदर्शी सिद्धांतों के अनुसार सड़क निर्माण के लिए उपयोग संबंधित है।”

(v) खण्ड (ट) के स्थान पर निम्न खंड रखा जाएगा, अर्थात् :-

‘(ट) “आयातक” से वह व्यक्ति अभिप्रेत है जो प्लास्टिक पैकेजिंग या प्लास्टिक पैकेजिंग वाले उत्पादों या कैरी बैगों या बहु-परतीय पैकेजिंग या प्लास्टिक शीटों या इस प्रकार की अन्य सामग्रियों का आयात करता है;’ ;

(vi) खण्ड (ण) के पश्चात्, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-

‘णक’ “प्लास्टिक पैकेजिंग” से विभिन्न तरीकों से उत्पादों का संरक्षण करने, उनका परिरक्षण करने, भंडारण करने, परिवहन करने के लिए प्लास्टिकों का प्रयोग करके बनाई गई पैकेजिंग सामग्री अभिप्रेत है;’ ;

(vii) खण्ड (थक) के पश्चात् निम्नलिखित खण्ड अंतःस्थापित किया जाएगा, अर्थात्:-

‘(थख) “प्लास्टिक अपशिष्ट प्रसंस्करणकर्ताओं” से ऊर्जा के लिए (अपशिष्ट से ऊर्जा उत्पादन) प्लास्टिक अपशिष्ट का उपयोग करने में लगी इकाइयों के साथ प्लास्टिक अपशिष्ट का पुनर्चक्रण अभिप्रेत है। जिसमें सह-प्रसंस्करण या प्लास्टिक अपशिष्ट को तेल में परिवर्तित करना (अपशिष्ट से तेल उत्पादन), उन मामलों को छोड़कर जिनमें फीडस्टॉक रसायनों का उत्पादन प्लास्टिक के उत्पादन में पुनः उपयोग हेतु किया जाता है जिस पर पुनर्चक्रण करने, औद्योगिक खाद बनाने के अधीन विचार किया जा सकता है;’ ;

(viii) खंड (थख) के पश्चात् निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-

‘(थग) “पश्च-उपभोक्ता प्लास्टिक पैकेजिंग का अपशिष्ट” से उत्पाद का अंतिम उपयोग करने वाले उपभोक्ता द्वारा, पैकेजिंग का आशयित उपयोग पूर्ण होने के पश्चात् सृजित किया गया प्लास्टिक पैकेजिंग अपशिष्ट अभिप्रेत है और अब इसका उपयोग अपने आशयित प्रयोजन के लिए नहीं किया जा रहा है;’ ;

(ix) खंड (द) के पश्चात्, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-

‘(दक) “पश्च-उपभोक्ता प्लास्टिक पैकेजिंग अपशिष्ट” से प्लास्टिक पैकेजिंग के विनिर्माण के चरण पर अस्वीकार या पृथक किए जाने के रूप में सृजित प्लास्टिक पैकेजिंग अपशिष्ट और उत्पाद का अंतिम उपयोग करने वाले उपभोक्ता तक प्लास्टिक पैकेजिंग पहुंचने से पूर्व, उत्पाद की पैकेजिंग के दौरान सृजित प्लास्टिक पैकेजिंग अपशिष्ट अभिप्रेत है जिसमें अस्वीकृत, पृथक किए गए उत्पाद सम्मिलित हैं;’ ;

- (x) खंड (ध) के पश्चात्, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-
'(धक) "पुनर्चक्रक" वे इकाईयां हैं जो प्लास्टिक अपशिष्ट के पुनर्चक्रण की प्रक्रिया में कार्यरत हैं;'
- (xi) खंड (प) के पश्चात्, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-
(पक) "पुनः उपयोग से किसी सामान की संरचना में परिवर्तन किए बिना समान प्रयोजन या अन्य प्रयोजन के लिए कोई प्रयोग किया जाने वाला सामान या संसाधन सामग्री अभिप्रेत है;";
- (xii) खंड (ब) के पश्चात् निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-
'(बक) "पुनःचक्रित प्लास्टिक का प्रयोग" से, विनिर्माण प्रक्रिया में कच्चे माल के रूप में वर्जित प्लास्टिक के बजाय प्रयुक्त पुनर्चक्रित प्लास्टिक अभिप्रेत है;';
- (xiii) खंड (कक) के पश्चात् निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-
'(ककख) "अपशिष्ट से ऊर्जा उत्पादन" से, ऊर्जा के उत्पादन के लिए प्लास्टिक अपशिष्ट का प्रयोग करना अभिप्रेत है और इसमें सह-प्रसंस्करण (अर्थात् सीमेंट, इस्पात या कोई अन्य ऐसे उद्योग में) सम्मिलित है;'
3. उक्त नियम के नियम 4 में, -
- (i) उप-नियम (1) में,
- (क) खंड (घ) में, "-के सिवाय मोटाई" शब्दों के पश्चात् "केंद्रीय सरकार द्वारा यथा विनिर्दिष्ट" शब्द अंतःस्थापित किए जाएंगे"
- (ख) उप-नियम (1) में, खंड (ज) में,-
- (क) "कम्पोस्टेबल प्लास्टिक से निर्मित" शब्दों के पश्चात् "और जैव-अवक्रमणीय प्लास्टिकों" शब्द अंतस्थापित किए जाएंगे;
- (ख) "आईएस 17088:2008" शब्दों और आंकड़ों के स्थान पर "आईएस/आईएसओ 17088:2021" शब्द और आंकड़े रखे जाएंगे
- (ग) "कम्पोस्टेबल प्लास्टिक के विक्रेता" शब्दों के पश्चात् "और जैव-अवक्रमणीय प्लास्टिकों" शब्द अंतस्थापित किए जाएंगे;-
- (ii) उप-नियम (3) में, "कम्पोस्टेबल प्लास्टिक" शब्दों के पश्चात् "और जैव-अवक्रमणीय प्लास्टिकों।" शब्द अंतस्थापित किए जाएंगे।
4. उक्त नियम के नियम 9 में, -
- (i) उप-नियम (1) के स्थान पर, निम्नलिखित उप-नियम रखा जाएगा, अर्थात्-
"(1) उत्पादक, आयातक और ब्राण्ड मालिक अनुसूची-II में विनिर्दिष्ट दिशा-निर्देशों के अनुसार प्लास्टिक पैकेजिंग हेतु विस्तारित उत्पादक उत्तरदायित्व को पूरा करेंगे।"
- (ii) उप नियम (2) में, "एकत्रण की योजना" शब्दों से आरंभ होने वाले और "इसके पश्चात् दो वर्ष-" से अंत होने वाले" शब्दों का लोप किया जाएगा;
- (iii) उप-नियम (4) में,- "प्रदूषण नियंत्रण बोर्ड" शब्दों से पूर्व "केंद्रीय प्रदूषण नियंत्रण बोर्ड और राज्य" शब्द अंतःस्थापित किए जाएंगे।-;
- (iv) उप-नियम (5) में,
- (क) "रजिस्ट्रीकरण फॉर्म के बिना" शब्दों के पश्चात् "केंद्रीय प्रदूषण नियंत्रण बोर्ड यदि दो से अधिक राज्यों या संघ राज्य क्षेत्रों में प्रचालन कर रहा हो" शब्द अंतस्थापित किए जाएंगे।
- (ख) "प्रदूषण नियंत्रण समितियों-" शब्दों के पश्चात् "नियम 13 का उप-नियम (2) के अनुसार।" शब्द अंतस्थापित किए जाएंगे।

5. उक्त नियम के नियम 10 के स्थान पर, निम्नलिखित नियम रखा जाएगा, अर्थात्:-

“10 कंपोस्टेबल और जैवअवक्रमणीय प्लास्टिक सामग्रियों के लिए नयाचार.- (1) प्लास्टिक सामग्री की अवक्रमणीयता के परिमाण और अपघटन के परिमाण का अवधारण अनुसूची I में सूचीबद्ध भारतीय मानकों के नयाचारों के अनुसार होगा।

(2) कंपोस्टेबल प्लास्टिक सामग्रियां, आईएस/आईएसओ 17088:2021, समय-समय पर यथासंशोधित, के अनुरूप होंगी।

(3) जैवअवक्रमणीय प्लास्टिक, भारतीय मानक ब्यूरो द्वारा अधिसूचित और केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा प्रमाणित किए गए इन मानकों के अनुरूप होगा।

(4) जब तक भारतीय मानक ब्यूरो द्वारा उप-नियम (3) में निर्दिष्ट मानक अधिसूचित नहीं किया जाता, तब तक जैव-अवक्रमणीय प्लास्टिक भारतीय मानक ब्यूरो द्वारा यथाअधिसूचित अनंतिम भारतीय मानक आईएस 17899 टी:2022 के अनुरूप होंगे।

(5) एक अस्थायी उपाय के रूप में, जैव अवक्रमणीय प्लास्टिकों के लिए उन मामलों में, जहां किसी वर्तमान परीक्षण के लिए अंतरिम परीक्षण रिपोर्ट प्रस्तुत की जाती है, केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा अनंतिम प्रमाण पत्र जारी किया जाएगा, जिसमें आईएस 17899 टी:2022 की टी 1 में क्र.सं. (i) या क्र.सं. (ii) या टी 2 की क्र. सं. (i) पर दिए गए जैव-अवक्रमणीय संबंधी आईएस 17899 टी:2022 का पहला घटक सम्मिलित होगा:-

परंतु जैवअवक्रमणीय प्लास्टिक का उत्पादन या आयात दिनांक 31 मार्च, 2023 के बाद बंद हो जाएगा इस शर्त के साथ अनंतिम प्रमाणपत्र 30 जून, 2023 तक वैध रहेगा।

(6) अंतरिम परीक्षण रिपोर्ट केन्द्रीय पेट्रो-रासायनिक अभियंत्रण और प्रौद्योगिकी या भारतीय मानक ब्यूरो की प्रयोगशाला मान्यता स्कीम, 2020 के अधीन मान्यता प्राप्त किसी प्रयोगशाला से या प्रयोगशालाओं के परीक्षण एवं अंशाकन हेतु राष्ट्रीय प्रत्यायन बोर्ड द्वारा इस प्रयोजन हेतु मान्यता प्राप्त प्रयोगशालाओं से प्राप्त की जाएगी, और वे यह प्रमाणित करेंगे कि प्लास्टिक का जैव-अवक्रमण आईएस 17899 टी:2022 के अनुरूप है।

6. उक्त नियम के नियम 11 के उप-नियम (1) में, -

(i) खंड (क) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्:-

“(क) उत्पादक या ब्राण्ड मालिक का नाम, रजिस्ट्रीकरण संख्या और कैरी बैग तथा प्लास्टिक पैकेजिंग के मामले में मोटाई।

परंतु, यह उपबंध लागू नहीं होगा,-

(i) आयातित वस्तुओं के लिए प्रयुक्त प्लास्टिक पैकेजिंग हेतु

(ii) केन्द्रीय प्रदूषण नियंत्रण बोर्ड के अनुमोदन के पश्चात्, विधिक माप विज्ञान पैकेज्ड सामग्री नियम, 2011 के नियम 26 के अंतर्गत आने वाले मामलों के लिए;

(iii) उन मामलों में, जहां इस संबंध में केन्द्रीय प्रदूषण नियंत्रण बोर्ड के अनुमोदन के पश्चात् “इलेक्ट्रॉनिक और आईटी उत्पादों हेतु बीआईएस अनिवार्य रजिस्ट्रीकरण स्कीम के अधीन मानक चिन्ह के उपयोग और लेबल लगाने की अपेक्षाओं के लिए मार्गदर्शी सिद्धांतों” में दिए गए विनिर्देशों के अनुसार, इस नियम के अधीन अधिदेशित अपेक्षित सूचना को मुद्रित करना तकनीकी रूप से साध्य नहीं है।

(ii) खंड (ख) में, ‘1 जनवरी, 2023 से’ “विनिर्माता” शब्द के स्थान पर “उत्पादक या ब्रांड स्वामी” शब्द रखे जाएंगे।

(iii) खंड (ग) के बाद, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-

“(घ) आयातित कैरी बैगों या बहु-परतीय पैकेजिंग या प्लास्टिक पैकेजिंग का आयातकर्ता या उत्पादक या ब्रांड स्वामी, एक मात्र रूप से या उत्पादों सहित खंड (क) और (ख) का पालन करेगा।”

7. उक्त नियम के नियम 12 के उप-नियम (1) में, - “राज्य प्रदूषण नियंत्रण बोर्ड” शब्दों से पहले “केन्द्रीय प्रदूषण नियंत्रण बोर्ड या” शब्द अंतःस्थापित किए जाएंगे।

8. उक्त नियम के नियम 13 में,-

(i) उप-नियम (1) के स्थान पर, निम्नलिखित उप-नियम रखा जाएगा, अर्थात्:-

“(1) कोई भी व्यक्ति कैरी बैगों या पुनर्चक्रित प्लास्टिक बैगों या बहुपरतीय पैकेजिंग का तब तक विनिर्माण नहीं करेगा जब तक कि उस व्यक्ति ने निम्नलिखित से रजिस्ट्रीकरण प्राप्त न कर लिया हो,-

- (i) संबंधित राज्य प्रदूषण नियंत्रण बोर्ड या संघ राज्य क्षेत्र की प्रदूषण नियंत्रण समिति, यदि एक या दो राज्यों या संघ राज्य क्षेत्रों में प्रचालन कर रहे हों; या
- (ii) केंद्रीय प्रदूषण नियंत्रण बोर्ड, यदि दो से अधिक राज्यों या संघ राज्य क्षेत्रों में प्रचालन कर रहे हों,”

(ii) उप-नियम (2) में,

(क) “उत्पादक” शब्द के पश्चात्, “,-या आयातकर्ता” शब्द अंतःस्थापित किए जाएंगे;

(ख) “आवेदन करना” शब्दों के पश्चात्, “अनुसूची-2 में विनिर्दिष्ट मार्गदर्शी सिद्धांतों के अनुसार” शब्द और अंक अंतःस्थापित किए जाएंगे।

(iii) उप-नियम (3) में, “प्रपत्र 2 में” शब्दों-, और अंकों के पश्चात्, “अनुसूची-2 में विनिर्दिष्ट मार्गदर्शी सिद्धांतों के अनुसार” शब्द अंक अंतःस्थापित किए जाएंगे-;

(iv) उप-नियम (6) का लोप किया जाएगा।

(v) उप-नियम (7) में, अंत में आने वाले “पंजीकरण निबंधन” शब्दों के पश्चात्, “और पंजीकरण, अनुसूची-2 में विनिर्दिष्ट प्लास्टिक पैकेजिंग हेतु विस्तारित उत्पादक उत्तरदायित्व से संबंधी मार्गदर्शी सिद्धांतों के अनुसार बाध्यताओं को पूरा करने के अध्यक्षीन होगा” शब्द और अंक अंतःस्थापित किए जाएंगे।

9. उक्त नियम के नियम 17 के बाद, निम्नलिखित नियम अंतःस्थापित किया जाएगा, अर्थात्,-:-

“18. पर्यावरणीय प्रतिकर का अधिरोपण - पर्यावरणीय प्रतिकर का अधिरोपण उन व्यक्तियों पर, जो केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा अधिसूचित मार्गदर्शी सिद्धांतों के अनुसार इन नियमों के उपबंधों का अनुपालन नहीं कर रहे हैं/ रहे हैं, प्रदूषक द्वारा संदाय किए जाने के सिद्धांत के आधार पर उद्धृत किया जाएगा”।

10. उक्त नियम की अनुसूची 1 के स्थान पर, निम्नलिखित रखा जाएगा :-

“अनुसूची-1

[नियम 10 देखें]

(1)	(2)
1	आईएस/आईएसओ 14851:2019 जलीय माध्यम में प्लास्टिक सामग्रियों की अंतिम वायुजीवी जैव-अवक्रमणीयता का अवधारण- किसी बंद रेस्पिरोमीटर में ऑक्सीजन मांग को मापने की पद्धति (प्रथम पुनरीक्षण)
2	आईएस/आईएसओ 14852:1999 जलीय माध्यम में प्लास्टिक वस्तुओं की अंतिम एरोबिक जैव-अवक्रमणीयता का अवधारण- विकसित कार्बनडाईऑक्साइड के विश्लेषण द्वारा मापने की पद्धति
3	आईएस/आईएसओ 14853:2016 प्लास्टिक- जलीय माध्यम में प्लास्टिक सामग्रियों की अंतिम वायुजीवी जैव-अवक्रमणीयता का अवधारण- बायोगैस उत्पादन द्वारा मापने की पद्धति (प्रथम संशोधन)
4	आईएस/आईएसओ 14855-1:2012 प्लास्टिक- नियंत्रित कम्पोस्टिंग दशाओं में प्लास्टिक सामग्रियों की अंतिम वायुजीवी जैव-अवक्रमणीयता का अवधारण- विकसित कार्बनडाईऑक्साइड के विश्लेषण द्वारा मापने की पद्धति: भाग 1 सामान्य पद्धति (प्रथम संशोधन)
5	आईएस/आईएसओ 14855-2:2018 प्लास्टिक- नियंत्रित कम्पोस्टिंग दशाओं में प्लास्टिक सामग्रियों की अंतिम वायुजीवी जैव-अवक्रमणीयता का अवधारण- विकसित कार्बनडाईऑक्साइड के विश्लेषण द्वारा मापने की पद्धति: भाग 2 प्रयोगशाला- पैमाना परीक्षण में विकसित कार्बनडाईऑक्साइड की ग्रेवीमेट्रिक माप (प्रथम संशोधन)
6	आईएस/आईएसओ 15985:2014 प्लास्टिक- उच्च ठोस अवायुजीवी- आत्मसात्करण दशाओं में अंतिम अवायुजीवी जैव-अवक्रमणीयता का अवधारण- निर्मुक्त बायोगैस के विश्लेषण से मापने की पद्धति (प्रथम संशोधन)

7	आईएस/आईएसओ 16929:2019 प्लास्टिक- प्रायोगिक पैमाना परीक्षण में परिभाषित कंपोस्टिंग दशाओं में प्लास्टिक सामग्रियों के विघटन की डिग्री का अवधारण (द्वितीय संशोधन)
8	आईएस/आईएसओ 17556:2019 प्लास्टिक- किसी रेस्पिरोमीटर में ऑक्सीजन की माप या विकसित कार्बनडाईऑक्साइड की मात्रा द्वारा मृदा में प्लास्टिक सामग्रियों की अंतिम वायुजीवी जैव-अवक्रमणीयता का अवधारण (द्वितीय संशोधन)
9	आईएस/आईएसओ 20200:2015 प्लास्टिक- प्रयोगशाला पैमाना परीक्षण में अनुकरण की गई कंपोस्टिंग दशाओं में प्लास्टिक सामग्रियों के विघटन की डिग्री का अवधारण (प्रथम संशोधन)''

11. उक्त नियमों के, प्रपत्र 1 में,-

(i) "1. उत्पादक" उपशीर्ष में क्रम संख्यांक 11 और उससे संबंधित प्रविष्टियों के स्थान पर निम्नलिखित रखा जाएगा, अर्थात् :-

"11.	अनुसूची-2 में विनिर्दिष्ट मार्गदर्शी सिद्धांतों के अनुरूप कार्य योजना"।
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(ii) 'उपशीर्ष "2 ब्रांड स्वामी" क्रम संख्यांक 9 के लिए और उससे संबंधित प्रविष्टियों स्थान पर निम्नलिखित रखा जाएगा, अर्थात्-

"9.	अनुसूची-2 में विनिर्दिष्ट मार्गदर्शी सिद्धांतों के अनुरूप कार्य योजना"।
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(iii) उपशीर्षक "2 ब्रांड स्वामियों" और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित अंतःस्थापित किया जाएगा, अर्थात्:-

"3. आयातकर्ता :

भाग-क		साधारण
1.	नाम, पता और संपर्क करने के लिए नंबर	
2.	नवीकरण के मामले में, पूर्वतर रजिस्ट्रीकरण संख्या और रजिस्ट्रीकरण की तारीख	
3.	क्या इकाई, राज्य सरकार या संघ राज्य क्षेत्र के जिला उद्योग केंद्र में रजिस्ट्रीकृत है? यदि हां, तो प्रति संलग्न करें।	
4.(क)	परियोजना में निवेश की गई कुल पूंजी	
(ख)	उत्पादन प्रारंभ करने का वर्ष	
5.(क)	उत्पादों और उप-उत्पादों की सूची और मात्रा	
(ख)	प्रयुक्त कच्ची सामग्री की सूची और मात्रा	
6.(क)	आयातित या आयात किए जाने वाले उत्पादों की पैकेजिंग के लिए प्रयुक्त प्लास्टिक शीट या वैसे ही प्लास्टिक शीट की मात्रा	
(ख)	आगे और आपूर्ति या स्व उपयोग के लिए पैकेजिंग हेतु प्रयुक्त प्लास्टिक शीट या वैसे ही प्लास्टिक की मात्रा	
(ग)	आगे और आपूर्ति या स्व उपयोग के लिए बहु-परतीय पैकेजिंग की मात्रा	

भाग-ख द्रव बहिःस्राव और गैसीय उत्सर्जनों से संबंधित		
7.	क्या इकाई के पास, जल (प्रदूषण निवारण एवं नियंत्रण) अधिनियम, 1974 (1974 का 6) के अधीन वैध सहमति है? यदि हां, तो प्रति संलग्न करें	
8.	क्या इकाई के पास, वायु (प्रदूषण निवारण एवं नियंत्रण) अधिनियम, 1981 (1981 का 14) के अधीन वैध सहमति है? यदि हां, तो प्रति संलग्न करें	
भाग-ग अपशिष्ट से संबंधित		
9.	ठोस अपशिष्ट या अवशिष्ट : (क) उत्पन्न अपशिष्ट की कुल मात्रा (ख) संयंत्र के भीतर भण्डारण का ढंग (ग) अपशिष्टों के निपटान के लिए की गई व्यवस्था	
10.(क)	(i) पैकेजिंग के लिए प्रयुक्त आयातित (ii) प्लास्टिक शीट या वैसे ही प्लास्टिक शीट और (ii) बहुपरतीय पैकेजिंग की आपूर्ति कराने वाले व्यक्ति की सूची संलग्न करें या उपलब्ध कराएं	
(ख)	(i) आगे और आपूर्ति या स्व उपयोग के लिए प्रयुक्त मात्रा सहित पैकेजिंग के लिए प्रयुक्त आयातित (ii) प्लास्टिक शीट या वैसे ही प्लास्टिक शीट और (ii) आगे और आपूर्ति या स्व उपयोग के लिए प्रयुक्त मात्रा सहित आयातित बहुपरतीय पैकेजिंग की मात्रा	
11.	अनुसूची-2 में निर्दिष्ट मार्गदर्शी सिद्धांतों के अनुसार कार्य योजना	
		नाम और हस्ताक्षर पदनाम
तारीख : स्थान : ”		

12. उक्त नियम के प्रपत्र 4 में, क्रम संख्या (9) और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित अंतस्थापित किया जाएगा, अर्थात् :-

“(10). अनुसूची-2 में निर्दिष्ट मार्गदर्शी सिद्धांतों के अनुसार, संबंधित राज्य प्रदूषण नियंत्रण बोर्ड और प्रदूषण नियंत्रण समिति को प्रत्येक वर्ष तारीख 30 अप्रैल तक उपलब्ध कराए जाने वाले आंकड़े”

13. उक्त नियम के, प्रपत्र 5 में, तालिका के पश्चात् निम्नलिखित टिप्पण अंतःस्थापित की जाएगी:-

“टिप्पण: केन्द्रीय प्रदूषण नियंत्रण बोर्ड को प्रत्येक वर्ष तारीख 30 अप्रैल तक निम्नलिखित सूचनाएं उपलब्ध कराई जाएगी, अर्थात् :-

- (क) कैरी बैग, पुनर्चक्रित प्लास्टिक बैग, बहुपरतीय पैकेजिंग का विनिर्माता (नियम 13के उप-नियम (1) के खंड (i) के अधीन रजिस्ट्रीकृत)
- (ख) उत्पादक, आयातकर्ता, ब्रांड का स्वामी (नियम 13 के उप-नियम (1) के खंड (i) के अधीन रजिस्ट्रीकृत)

(ग) पुनर्चक्रणकर्ता और प्लास्टिक अपशिष्ट का प्रसंस्करणकर्ता (नियम 13के उप-निमय (1) के खंड (i) के अधीन रजिस्ट्रीकृत)”

14. उक्त नियम की अनुसूची-2 के पैरा (3) का लोप किया जाएगा।

उक्त नियम की अनुसूची 2 में, उप- पैरा (7.8) के स्थान पर निम्नलिखित का रखा जाएगा, अर्थात्:-

“(7.8) यदि बाध्य इकाई जैवअवक्रमणीयता प्लास्टिक से बनी प्लास्टिक पैकेजिंग का उपयोग करती है, तो नियम 10 के उपबंध लागू होंगे और विस्तारित उत्पादक उत्तरदायित्व लक्ष्य लागू नहीं होगा।”

[फा. सं. 17/24/2021-एचएसएमडी]

नरेश पाल गंगवार, अपर सचिव

टिप्पणी : मूल नियम भारत के राजपत्र में सा.का.नि. 320(अ), तारीख 18 मार्च, 2016 द्वारा प्रकाशित किए गए थे और तत्पश्चात् उनमें अधिसूचना संख्या सा.का.नि. 285(अ), तारीख 27 मार्च, 2018 और अधिसूचना संख्या सा.का.नि. 571(अ), तारीख 12 अगस्त, 2021 और अधिसूचना संख्या सा.का.नि. 647(अ), तारीख 17 अगस्त, 2021 के द्वारा संशोधन और अधिसूचना संख्या सा.का.नि. 133(अ), तारीख 16 फरवरी, 2022 के द्वारा अंतिम बार संशोधन किया गया था।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 6th July, 2022

G.S.R. 522(E).—Whereas the draft rules further to amend the Plastics Waste Management Rules, 2016, were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) dated the 18th January, 2022, *vide* notification number G.S.R. 22 (E) dated the 18th January, 2022, inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date copies of the Gazette containing the said draft rules were made available to the public;

And whereas, copies of the Gazette containing the said draft rules were made available to the public on the 18th January, 2022 ;

And whereas, objections and suggestions received within the aforesaid period have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sections 3, 6, and 25 of the Environment (Protection) Act 1986, (29 of 1986), the Central Government hereby makes the following rules further to amend the Plastic Waste Management Rules, 2016, namely :-

1. Short title and commencement.- (1) These rules may be called the Plastic Waste Management (Second Amendment) Rules, 2022.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Plastic Waste Management Rules, 2016 (hereinafter referred to as the said rules), in rule 3,-

(i) after clause (ab), the following clause shall be inserted, namely:-

‘(ac) “Biodegradable plastics” means plastics, other than compostable plastics, which undergoes degradation by biological processes under ambient environment (terrestrial or in water) conditions, without leaving any micro plastics, or visible, or distinguishable or toxic residue, which has adverse environment impacts, adhering to laid down standards of Bureau of Indian Standards and certified by the Central Pollution Control Board;’;

(ii) in clause (b), after the words “brand labels”, the words “or trademark” shall be inserted;

- (iii) in clause (c), before the words “means bags made” the following words and brackets “(covered under Category II of plastic packaging – Clause (5.1) (II), given in Schedule – II)” shall be inserted.
- (iv) clause (ga), shall be renumbered as “(gb)” thereof and before clause (gb) as so renumbered, the following clause shall be inserted, namely :-
- ‘(ga) “End of Life disposal” means using plastic waste for generation of energy subject to relevant guidelines in force, which includes co-processing (e.g. in cement, steel or any other such industry) or waste to oil, except in cases where feedstock chemicals are produced for further use in the production of plastic which may then be considered under recycling or for road construction as per Indian Road Congress guidelines etc.’;
- (v) for clause (k), the following clause shall be substituted, namely:-
- ‘(k) “Importer” means a person who imports plastic packaging or products with plastic packaging or carry bags or multilayered packaging or plastic sheets or like;’;
- (vi) after clause (o), the following clause shall be inserted, namely :-
- ‘(oa) Plastic Packaging” means packaging material made by using plastics for protecting, preserving, storing, and transporting of products in a variety of ways;’ ;
- (vii) after clause (qa), the following clause shall be inserted, namely :-
- ‘(qb) “Plastic Waste Processors” means recyclers of plastic waste as well as entities engaged in using plastic waste for energy (waste to energy) including in coprocessing or converting plastic waste to oil (waste to oil) except in cases where feedstock chemicals are produced for further use in the production of plastic which may then be considered under recycling , industrial composting;’;
- (viii) after clause (qb), the following clause shall be inserted, namely:-
- ‘(qc) “Post-consumer plastic packaging waste” means plastic packaging waste generated by the end-use consumer after the intended use of packaging is completed and is no longer being used for its intended purpose;’;
- (ix) after Clause (r), the following clause shall be inserted, namely:-
- ‘(ra) “Pre-consumer plastic packaging waste” means plastic packaging waste generated in the form of reject or discard at the stage of manufacturing of plastic packaging and plastic packaging waste generated during the packaging of product including reject, discard, before the plastic packaging reaches the end-use consumer of the product;’;
- (x) after clause (s), the following clause shall be inserted, namely :-
- ‘(sa) “Recyclers” are entities who are engaged in the process of recycling of plastic waste;’;
- (xi) after clause (u), the following clause shall be inserted, namely:-
- ‘(ua) “Reuse” means using an object or resource material again for either the same purpose or another purpose without changing the object’s structure;’;
- (xii) after clause (w), the following clause shall be inserted, namely :-
- ‘(wa) “Use of recycled plastic” means recycled plastic used as raw material, instead of virgin plastic, in the manufacturing process;’;
- (xiii) after clause (aa), the following clause shall be inserted, namely :-
- ‘(aab) “Waste to Energy” means using plastic waste for generation of energy and includes co-processing (e.g. in cement, steel or any other such industry);’.
3. In in rule 4 of the said rules, , -
- (i) in sub-rule (1),
- (a) in clause (d), after the words “thickness except”, the words “ as specified by the Central Government” shall be inserted;

(b) in clause (h),-

(A) after the words “made up of compostable plastic”, the words “and biodegradable plastics” shall be inserted;

(B) for the letters and figures “IS 17088:2008,”, the letters and figures “IS / ISO 17088:2021” shall be substituted;

(C) after the words “seller of compostable plastic”, the words “and biodegradable plastics” shall be inserted;

(ii) in sub-rule (3), after the words “compostable plastic”, the words “and biodegradable plastics” shall be inserted.

4. In rule 9 of the said rules, -

(i) for sub-rule (1), the following sub-rule shall be substituted, namely:-

“(1) The Producers, Importers and Brand Owners shall fulfil Extended Producers Responsibility for Plastic Packaging as per guidelines specified in Schedule -II.”;

(ii) in sub-rule (2), the portion beginning with the words “This plan of collection” and ending with the words “two years thereafter” shall be omitted;

(iii) in sub-rule (4), before the words “Pollution Control Board”, the words, “Central Pollution Control Board and State” shall be inserted;

(iv) in sub-rule (5), -

(A) after the words “without registration from” the words “Central Pollution Control Board if operating in more than two states or Union territories,” shall be inserted;

(B) after the words “Pollution Control Committees”, the words, brackets and figures “ as per sub-rule (2) of rule 13” shall be inserted.

5. For rule 10 of the said rules, the following rule shall be substituted, namely.-

“ 10. Protocols for compostable and biodegradable plastic materials.- (1) Determination of the degree of degradability and degree of disintegration of plastic material shall be as per the protocols of the Indian Standards listed in Schedule I.

(2)The compostable plastic materials shall conform to the IS / ISO 17088:2021, as amended from time to time.

(3) The biodegradable plastics shall conform to the standard notified by the Bureau of Indian Standards and certified by the Central Pollution Control Board.

(4) Until a standard referred to in sub-rule (3) is notified by the Bureau of Indian Standards, biodegradable plastics shall conform to tentative Indian Standard IS 17899 T:2022 as notified by the Bureau of Indian Standards.

(5) As a transitory measure, provisional certificate for biodegradable plastics, shall be issued by the Central Pollution Control Board, in cases, where an interim test report is submitted, for an ongoing test, which covers the first component of the IS 17899 T:2022 relating to biodegradability given at Sl. No. (i) or Sl. No. (ii) of Table 1 or Sl. No. (i) of Table 2 of the IS 17899 T:2022:

Provided that the provisional certificate shall be valid till 30th June 2023 with the condition that production or import of biodegradable plastics shall cease after the 31st day of March, 2023.

(6) The interim test report shall be obtained from the Central Institute of Petrochemical Engineering and Technology or a laboratory recognised under the Laboratory Recognition Scheme, 2020, of the Bureau of Indian Standards or laboratories accredited for this purpose by the National Accreditation Board for Testing and Calibration Laboratories, and they shall certify the bio-degradation of plastic is in line with IS 17899 T:2022.

6. In sub-rule (1) of rule 11 of the said rules,-

(i) for clause (a), the following clause shall be substituted, namely:-

“(a) name, registration number of the producer or brand owner and thickness in case of carry bag and plastic packaging :

Provided that this provision shall not be applicable,-

(i) for plastic packaging used for imported goods:

(ii) for cases falling under rule 26 of the Legal Metrology Packaged Commodities Rules, 2011, after the approval of the Central Pollution Control Board:

(iii) for cases where it is technically not feasible to print the requisite information mandated under this Rule, as per specifications given in the “Guidelines for use of Standard Mark and labelling requirements under BIS Compulsory Registration Scheme for Electronic and IT Products” after the approval of the Central Pollution Control Board .”;

(ii) in clause (b), “with effect from the 1st January, 2023” for the word “manufacturer”, the words “producer or brand owner” shall be substituted.

(iii) after clause (c), the following clause shall be inserted, namely:-

“(d) the importer or producer or brand owner of imported carry bags or multi-layered packaging or plastic packaging, alone or along with the products shall adhere to clause (a) and (b).”

7. In rule 12 of the said rules, in sub-rule (1), before the words, “State Pollution Control Board” the words, “Central Pollution Control Board or” shall be inserted.

8. In rule 13 of the said rules, -

(i) for sub-rule (1), the following sub-rule shall be substituted, namely:-

“(1) No person shall manufacture carry bags or recycle plastic bags or multilayered packaging unless the person has obtained registration from,-

(i) the concerned State Pollution Control Board or Pollution Control Committee of the Union territory, if operating in one or two states or Union territories; or

(ii) the Central Pollution Control Board, if operating in more than two States or Union territories.”;

(ii) in sub-rule (2),-

(A) after the word “producer”, the words “or importer” shall be inserted;

(B) after the words “make an application” , the words and figures “as per the guidelines specified in Schedule -II,” shall be inserted;

(iii) in sub-rule (3), after the words “in Form II”, the words and figures “as per the guidelines specified in Schedule -II” shall be inserted.

(iv) Sub-rule (6) shall be omitted;

(v) in sub-rule (7), after the words “terms of registration” occurring at the end, the words and figures “ and the registration shall be subject to fulfilment of obligations in accordance with the guidelines on Extended Producer Responsibility for Plastic Packaging specified in Schedule -II.” shall be inserted.

9. After rule 17 of the said rules, the following rule shall be inserted, namely:-

“18. Imposition of Environmental Compensation.- The Environmental Compensation shall be levied based upon polluter pays principle, on persons who are not complying with the provisions of these rules, as per guidelines notified by the Central Pollution Control Board.”.

10. For Schedule I of the said rules, the following shall be substituted, namely:-

“SCHEDULE-I

[See rule 10]

(1)	(2)
1	IS / ISO 14851: 2019 Determination of the Ultimate Aerobic Biodegradability of Plastic Materials in an Aqueous Medium — method by measuring the Oxygen demand in a closed respirometer (First Revision)
2	IS / ISO 14852: 1999 Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium—method by analysis of evolved Carbon dioxide
3	IS / ISO 14853: 2016 Plastics — Determination of the ultimate anaerobic biodegradation of plastic materials in an aqueous system —method by measurement of biogas production (First Revision)
4	IS /ISO 14855-1: 2012 Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — method by analysis of evolved Carbon dioxide: Part 1 General method (First Revision)
5	IS / ISO 14855-2: 2018 Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — method by analysis of evolved carbon dioxide: Part 2 Gravimetric measurement of Carbon dioxide evolved in a laboratory- scale test (First Revision)
6	IS / ISO 15985: 2014 Plastics — Determination of the ultimate anaerobic biodegradation under high-solids anaerobic-digestion conditions — methods by analysis of released biogas (First Revision)
7	IS /ISO 16929: 2019 Plastics — Determination of the Degree of Disintegration of Plastic Materials under Defined Composting Conditions in a Pilot-Scale Test (Second Revision)
8	IS / ISO 17556: 2019 Plastics — Determination of the Ultimate Aerobic Biodegradability of plastic materials in soil by measuring the Oxygen demand in a Respirometer or the amount of Carbon Dioxide Evolved (Second Revision)
9	IS / ISO 20200 : 2015 Plastics — Determination of degree of disintegration of plastic materials under simulated composting conditions in a laboratory - Scale test (First Revision)”

11. In the said rules, in Form I,-

(i) in the sub-heading “1.Producers”, for serial number 11 and the entries relating thereto, the following shall be substituted, namely:-

“ 11.	Action plan in line with the guidelines specified in Schedule -II”.	
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(ii) in sub-heading “II Brand Owners”, for serial number 9 and the entries relating thereto, the following shall be substituted, namely:-

“9.	Action plan in line with the guidelines specified in Schedule -II”.	
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(iii) after sub-heading “II. Brand Owners” and the entries relating thereto, the following shall be inserted, namely:-

" III- Importers

PART – A		
GENERAL		
1.	Name, Address and Contact number	
2	In case of renewal, previous registration number and date of registration	
3	Is the unit registered with the District Industries Centre of the State Government or Union Territory? If yes, attach a copy.	
4.(a)	Total capital invested on the project	
(b)	Year of commencement of production	
5. (a)	List and quantum of products and by-products	
(b)	List and quantum of raw materials used	
6 (a)	Quantity of plastic sheet or like used for packaging of imported or to be imported products	
(b)	Quantity of plastic sheet or like used for packaging for further supply or self-use	
(c)	Quantity of multilayered packaging for further supply or self-use	
PART – B		
PERTAINING TO LIQUID EFFLUENT AND GASEOUS EMISSIONS		
7.	Does the unit have a valid consent under the Water (Prevention and control of Pollution) Act, 1974 (6 of 1974)? If yes, attach a copy	
8.	Does the unit have a valid consent under the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981)? If yes, attach a copy	
PART – C		
PERTAINING TO WASTE		
9.	Solid Wastes or rejects: (a) Total quantum of waste generated (b) Mode of storage within the plant (c) Provision made for disposal of wastes	
10. (a)	Attach or provide list of person supplying imported (i) plastic sheet or like used for packaging, (ii) multilayered packaging	
(b)	Quantity of imported (i) plastic sheet or like used for packaging along with the quantity used for further supply or self use, (ii) multilayered packaging along with the quantity used for further supply or self use	
11.	Action Plan in line with Guidelines specified in Schedule - II	
		Name and Signature
		Designation
Date :		
Place :”.		

12. In Form IV of the said rules, after serial number (9) and the entries thereto, the following shall be inserted, namely:-

“(10). Data to be provided as per guidelines specified in Schedule -II by 30th April of every year to the concerned State Pollution Control Board or Pollution Control Committee”

13. In Form VI of the said rules, after the table, the following note shall be inserted:-

“Note: The following informations shall be provided to the Central Pollution Control Board by 30th April of every year, namely:-(a) Manufacturer of carry bag, recycled plastic bag, multilayered packaging (Registered under clause (i) of sub-rule (1) of rule 13;

(b) Producer, Importer, Brand Owner (Registered under clause (i) of sub-rule (2) of rule 13;(c)Recycler and plastic waste processor (Registered under clause (i) of sub-rule (3) of rule 13”.

14. Paragraph 3 of Schedule – II of the said rules shall be omitted. 15. In Schedule II of the said rules, for sub-- paragraph (7.8), the following shall be substituted, namely:-

“(7.8) In case, the obligated entity utilizes plastic packaging made from biodegradable plastics, the provisions of rule 10 shall be applicable and the Extended Producer Responsibility target shall not be applicable.”

[F. No. 17/24/2021-HSMD]

NARESH PAL GANGWAR, Addl. Secy.

Note : The principal rules were published in the Gazette of India, vide number G.S.R. 320(E), dated the 18th March, 2016 and subsequently amended vide notification number G.S.R. 285(E), dated the 27th March, 2018, vide notification number G.S.R. 571(E), dated the 12th August, 2021, vide notification number G.S.R. 647(E), dated the 17th August, 2021 and last amended vide notification number G.S.R. 133(E) , dated the 16th February 2022.

प्रयोगात्मक भारतीय मानक
Tentative Indian Standard

परिवर्तीय अवस्थाओं में प्लास्टिक की
जैवनिम्निकरणता का आंकलन
**Assessment of Biodegradability of
Plastics in Varied Conditions**

ICS 83.80.01

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FOREWORD

This provisional Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Plastics Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

Through Plastic Waste Management (PWM) Rules 2021, the Government of India prohibited manufacturing, import, stocking, distribution, sale and use of several single use plastics (SUPs) from 1st July 2022. The Rule 10 of PWM Rules 2016 “Protocols for Compostable Plastic Material” has been substituted with “Protocols for Compostable and Biodegradable Plastic Materials” through Draft PWM Rules 2022. The rule states that Biodegradable Plastics shall be as per appropriate Standard developed by Bureau of Indian Standards.

Therefore, due to urgent need of Indian Standard for implementation of PWM Rules, the Committee has decided to formulate a comprehensive indigenous Indian Standard for biodegradable plastic. As the technology is new and there are no international standards and validated data for the biodegradation of Plastics in environment like aqueous and marine medium, the Committee has decided to formulate a provisional Indian Standard as per Rule 27 of BIS Rules, 2018. This provisional Standard has been formulated to specify the procedures for assessment of the biodegradability of plastic in available varied conditions.

This provisional standard specifies the procedures for assessment of biodegradability of plastics, negative effects of resulting biomass on terrestrial plant growth/organism and regulated heavy metals present in the biomass. This standard is applicable only for the assessment of biodegradability of plastics in composting medium, soil medium, municipal solid waste medium and aqueous medium. In this standard, the criteria for assessing the biodegradability of plastics are applicable only in soil medium, municipal solid waste medium and composting medium.

At present, there are no test methods available internationally to determine the biodegradability of plastic in marine environment. The test methods are being developed by ISO for the same. Due to the unavailability of test methods and validated data, biodegradation in marine environment is not covered in this standard.

This provisional standard contains the limits of regulated heavy metals to ensure safe application of biomass. The values of the regulated heavy metals given in Table 1 and Table 2 have been taken from the Schedule II of Solid Waste Management Rules, 2016.

This standard does not specify the service life or durability aspects of the plastic material under consideration.

As per the definition of biodegradable plastic given in Plastic Waste Management Rules 2016, duly amended, the plastic material should not leave behind any micro plastics, or visible, distinguishable, or toxic residue, which has adverse environment impacts. There are no validated test methods available for testing of microplastic, the same will be introduced in the standard once available. Till the validated test methods are available, the 90 percent biodegradation shall be considered as a safe threshold to rule out the presence of microplastic.

As per rule 27 of BIS rules, the provisional Indian Standard shall not be used for Standard Mark.

As per the recommendation of the Plastics Sectional Committee, and with the approval of Petroleum, Coal and Related Products Division Council, this provisional standard is valid for a period of 2 years from the date of its establishment. Before the expiry of the validity period, this provisional standard will be once again reviewed by the Sectional Committee and will be established as a regular Indian Standard. However, if the Sectional Committee is of the opinion that such standard should not be established, with or without modification, as a regular Indian Standard, then this provisional Indian Standard shall lapse after its validity period.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Tentative Indian Standard

ASSESSMENT OF BIODEGRADABILITY OF PLASTICS IN VARIED CONDITIONS

1 SCOPE

1.1 This provisional standard specifies the procedures and assessment of biodegradability of plastics under varied conditions. This provisional standard addresses the following aspects:

- a) Biodegradation
- b) Negative effects of resulting biomass on terrestrial plant growth/organism.
- c) Negative effects of the quality of the resulting biomass including the presence of high levels of regulated heavy metals.

1.2 The provisional standard is applicable for assessing the biodegradability of plastics under aerobic, anaerobic conditions.

1.3 The provisional standard is not applicable for assessing the biodegradability of plastics under marine environment.

1.4 The assessment of biodegradability of plastic, if done through composting conditions only, vide IS/ISO 14855-1 and IS/ISO 14855-2, the plastic shall be certified as compostable plastic, and not as biodegradable plastic as defined under PWM Rules 2016, as amended.

1.5 This provisional standard excludes compostable plastics as per IS/ISO 17088, as per PWM Rules 2016, as amended.

2 REFERENCES

The standards and the other publications listed below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

IS No./Other publication

Title

IS 2828 : 2019/
ISO 472 : 2013

Plastics — Vocabulary
(*second revision*)

IS 3025 (Part 65) : 2022
/ISO 17294-2 : 2016

Methods of sampling and test (Physical and Chemical) for water and wastewater:
Part 65 Application of inductively coupled plasma mass spectrometry (ICP-MS) — Determination of 62 elements (*first revision*)

IS/ISO 14851 : 1999

Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium — Method by measuring the oxygen demand in a closed respirometer

IS/ISO 14852 : 1999

Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium — Method by analysis of evolved carbon dioxide

IS/ISO 14853 : 2016

Plastics — Determination of the ultimate anaerobic biodegradation of plastic materials in an aqueous system — Method by measurement of biogas production (*first revision*)

IS/ISO 14855-1 : 2012

Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — Method by analysis of evolved carbon dioxide : Part 1 General method (*first revision*)

<i>IS No./Other publication</i>	<i>Title</i>	
IS/ISO 14855-2 : 2018	Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — Method by analysis of evolved carbon dioxide: Part 2 Gravimetric measurement of carbon dioxide evolved in a laboratory-scale test (<i>first revision</i>)	Determination of effects on reproduction of <i>Eisenia fetida</i> / <i>Eisenia Andrei</i>
IS 15109 (Part 2) : 2002 /ISO 11269-2 : 1995	Soil quality — Determination of the effects of pollutants on soil flora: Part 2 Effects of contaminated soil on the emergence and early growth of higher plants (<i>first revision</i>)	OECD 208 : 2016 Terrestrial plant test: Seedling emergence and seedling growth test
IS/ISO 15985 : 2014	Plastics — Determination of the ultimate anaerobic biodegradation under high-solids anaerobic-digestion conditions — Method by analysis of released biogas (<i>first revision</i>)	3 TERMINOLOGY
IS/ISO 17088 : 2021	Compostable plastics — Specification (<i>second revision</i>)	3.1 For the purpose of this provisional standard, definition given below and in IS 2828 shall apply.
IS/ISO 17556 : 2019	Plastics — Determination of the ultimate aerobic biodegradability of plastic materials in soil by measuring the oxygen demand in a respirometer or the amount of carbon dioxide evolved (<i>second revision</i>)	3.2 Compostable Plastics¹ Plastic that undergoes degradation by biological process during composting to yield carbon dioxide, water, inorganic compounds and biomass at a rate consistent with other known compostable materials and leave no visible, distinguishable or toxic residue.
ISO 11268-1	Soil quality — Effects of pollutants on earthworms — Part 1: Determination of acute toxicity to <i>Eisenia fetida</i> / <i>Eisenia Andrei</i>	3.3 Microplastic Any solid plastic particle insoluble in water with any dimension between 1 µm and 1 000 µm (=1 mm). NOTE — The above definition is being formalised at ISO technical committee, once finalized, the definition would be adopted from the ISO document.
ISO 11268-2	Soil quality — Effects of pollutants on earthworms — Part 2:	3.4 Ultimate Aerobic Biodegradation¹ Breakdown of an organic compound by microorganisms in the presence of oxygen into carbon dioxide, water and mineral salts of any other elements present (mineralization) plus new biomass.

3.5 Ultimate Anaerobic Biodegradation²

Breakdown of an organic compound by microorganisms in the absence of oxygen to carbon dioxide, methane, water, and mineral salts of any other elements present (mineralization) plus new biomass.

NOTES:

1 As per IS/ISO 17088

2 As per IS/ISO 15985

4 REQUIREMENTS

4.1 The purpose of this provisional standard is to establish the requirements for plastics to meet the desired criteria under varied conditions. In order to comply with this document, plastics shall demonstrate biodegradation (aerobic or anaerobic), safe limits for toxic residue and no adverse effects on environment as mentioned in **4.2** to **4.4**.

4.2 The level of biodegradability of the plastics shall be assessed by testing under controlled conditions as given below.

4.2.1 Ultimate Aerobic Biodegradability

The ultimate level of aerobic biodegradation shall be established by testing under controlled conditions in accordance with the following standards:

<i>IS Number</i>	<i>Conditions</i>
IS/ISO 14851	Aqueous medium (activated sludge from a sewage treatment plant)
IS/ISO 14852	Aqueous medium (activated sludge from a sewage treatment plant)
IS/ISO 14855 (Part 1)	Composting
IS/ISO 14855 (Part 2)	Composting
IS/ISO 17556	Soil

4.2.2 Ultimate Anaerobic Biodegradability

The ultimate level of anaerobic biodegradation shall be established by testing under controlled typical anaerobic digestion conditions in accordance with the following standards:

<i>IS Number</i>	<i>Conditions</i>
IS/ISO 15985	Municipal solid waste
IS/ISO 14853	Aqueous medium (sludge with reduced inorganic carbon content less than 20 mg/l)

NOTES:

- 1 The plastic meeting the biodegradability criteria as per IS/ISO 14855-1 and IS/ISO 14855-2, shall only be considered for certification as 'Compostable plastics' in accordance with PWM Rules 2016, as amended.
- 2 Further, this provisional standard excludes 'Compostable plastics' as per IS/ISO 17088, under PWM Rules 2016, as amended.

4.3 Assessment of Toxic Residues

4.3.1 The assessment of toxic residues (regulated metal content) can only be analyzed after successful completion of the biodegradation phase.

4.3.2 The resultant biomass shall be analyzed for heavy metal content as per Table 1 and Table 2 and tested as per IS 3025 (Part 65).

4.4 Assessment of Adverse Effect on Environment

4.4.1 The plastics shall have no adverse effect on the environment, which includes terrestrial organisms. Thus, the analysis requires determination of eco toxicity testing as per column 4 of Table 1 and Table 2, for assessment of adverse effect of resulting biomass on terrestrial environment and plant growth test.

4.4.2 The biodegradability of the plastics under various conditions should confirm to the following requirements as specified in Table 1 or Table 2.

Table 1 Assessment of Aerobic Biodegradability in Plastics under varied conditions
(Clauses 4.3 and 4.4)

Sl No. (1)	Characteristics (2)	Requirement (3)	Method of Test, Ref to (4)
i)	Ultimate aerobic biodegradability of plastic materials under composting conditions, <i>Min</i>	90 percent by the end of the test period of 180 days	IS/ISO 14855-1 or IS/ISO 14855-2
	Ultimate aerobic biodegradability of plastic materials in an aqueous medium, <i>Min</i>	- do -	IS/ISO 14851 or IS/ISO 14852
ii)	Ultimate aerobic biodegradation of plastic materials in soil, <i>Min</i>	90 percent of the max level of biodegradation has been reached typically not exceeding six months but no longer than 2 years	IS/ISO 17556
Regulated Heavy Metal Analysis			
iii)	Arsenic (as As), mg/kg on dry mass basis, <i>Max</i>	10.00	
iv)	Cadmium (as Cd), mg/kg on dry mass basis, <i>Max</i>	5.00	
v)	Chromium (as Cr), mg/kg on dry mass basis, <i>Max</i>	50.00	
vi)	Copper (as Cu), mg/kg on dry mass basis, <i>Max</i>	300.00	IS 3025 (Part 65)
vii)	Lead (as Pb), mg/kg on dry mass basis, <i>Max</i>	100.00	
viii)	Mercury (as Hg), mg/kg on dry mass basis, <i>Max</i>	0.15	
ix)	Nickel (as Ni), mg/kg on dry mass basis, <i>Max</i>	50.00	
x)	Zinc (as Zn), mg/kg on dry mass basis, <i>Max</i>	1000.00	
Eco-toxicity Test			
xi)	Assessment of adverse impact on environment (Terrestrial plants growth test), <i>Min</i>	90 percent plant germination and plant biomass compared to control.	OECD 208 / ISO 11269-2 / Annex-C of IS/ISO 17088
xii)	Determination of acute/chronic ecotoxicity effects to earthworm, <i>Min</i>	90 percent of surviving earthworm grown in sample compost exposed to test material as well as reference compost exposed to reference material	ISO 11268-1 / Annex-D of IS/ISO 17088 and ISO 11268-2 / Annex-E of IS/ISO 17088

Table 2 Assessment of Aerobic Biodegradability in Plastics
(Clauses 4.3 and 4.4)

Sl No. (1)	Characteristics (2)	Requirement (3)	Method of Test, Ref to (4)
i)	Ultimate anaerobic biodegradation, <i>Min</i>	90 percent within 2 years	IS/ISO 15985 or IS/ISO 14853
Regulated Heavy Metal Analysis			
ii)	Arsenic (as As), mg/kg on dry mass basis, <i>Max</i>	10.00	
iii)	Cadmium (as Cd), mg/kg on dry mass basis, <i>Max</i>	5.00	
iv)	Chromium (as Cr), mg/kg on dry mass basis, <i>Max</i>	50.00	
v)	Copper (as Cu), mg/kg on dry mass basis, <i>Max</i>	300.00	As per IS 3025 (Part 65)
vi)	Lead (as Pb), mg/kg on dry mass basis, <i>Max</i>	100.00	
vii)	Mercury (as Hg), mg/kg on dry mass basis, <i>Max</i>	0.15	
viii)	Nickel (as Ni), mg/kg on dry mass basis, <i>Max</i>	50.00	
ix)	Zinc (as Zn), mg/kg on dry mass basis, <i>Max</i>	1000.00	
Eco-toxicity Test			
x)	Assessment of adverse impact on environment (Terrestrial plants growth test), <i>Min</i>	90 percent plant germination and plant biomass compared to control.	OECD 208 / ISO 11269-2 / Annex-C of IS/ISO 17088
xi)	Determination of acute/chronic ecotoxicity effects to earthworm, <i>Min</i>	90 percent of surviving earthworm grown in sample compost exposed to test material as well as reference compost exposed to reference material	ISO 11268-1 / Annex-D of IS/ISO 17088 and ISO 11268-2 / Annex-E of IS/ISO 17088

ANNEX A
(Foreword)

COMMITTEE COMPOSITION

Plastics Sectional Committee, PCD 12

<i>Organization</i>	<i>Representative(s)</i>
Central Institute of Plastics Engineering & Technology (CIPET), Chennai	PROF (DR) SHISHIR SINHA (Chairman) DR S. N. YADAV DR SMITA MOHANTY (<i>Alternate</i>)
CSIR-Central Food Technological Research Institute (CFTRI), Mysore	SHRI R. S. MATCHE
Indian Centre for Plastics in the Environment (ICPE), Mumbai	SHRI T. K. BANDOPADHYAY SHRI ARUNAVA GUHA (<i>Alternate</i>)
CSIR-Indian Institute of Toxicological Research (IITR), Lucknow	DR V. P. SHARMA DR A. B. PANT (<i>Alternate</i>)
Reliance Industries Ltd. (RIL), Mumbai	SHRI S. V. RAJU SHRI AMIT SHAH (<i>Alternate</i>)
Sabic Innovative Plastics, Bengaluru	DR SUMANDA BANDYOPADHYAY SHRI SUNIL RAUTO (<i>Alternate</i>)
Haldia Petrochemicals Limited, Kolkata	SHRI RAJ K. DATTA SHRI SUVOMOY GANGULY (<i>Alternate</i>)
Ministry of Environment & Forests (MoEF), New Delhi	SHRI SATYENDRA KUMAR SHRI AMIT LOVE (<i>Alternate</i>)
Indian Institute of Packaging (IIP), Mumbai	DR SANJAY CHATTOPADHYAY DR TANWEER ALAM (<i>Alternate</i>)
GAIL (India) Ltd., NOIDA	SHRI MANISH KHANDELWAL
CSIR- National Chemical Laboratory (NCL), Pune	DR P. R. SURESHA DR R. V. GUNDLORI (<i>Alternate</i>)
Indian Plastic Institute (IPI), Mumbai	SHRI V. B. LALL SHRI MIHIR BANERJI (<i>Alternate</i>)
Voluntary Organization in Interest of Consumer Education (VOICE), New Delhi	SHRI M. A. U. KHAN SHRI H. WADHWA (<i>Alternate</i>)
All India Plastics Manufacturers Association (AIPMA), New Delhi	SHRI DEEPAK BALLANI

<i>Organization</i>	<i>Representative(s)</i>
The Toy Association of India (TAI), New Delhi	SHRI RAJESH ARORA SHRI R. K. VERMA (<i>Alternate</i>)
Department of Chemicals & Petrochemicals, Min. of Chemicals & Fertilizers, New Delhi	SHRI O. P. SHARMA SHRI VARUN SINGH POONIA (<i>Alternate</i>)
Organization of Plastics Processors of India, Mumbai	DR SATYAPRASAD BHATTACHARYA SHRI DEEPAK LAWALE (<i>Alternate</i>)
Plastindia Foundation, Mumbai	DR E. SUNDARESAN SHRI HITEN BHEDA (<i>Alternate</i>)
Central Pollution Control Board, New Delhi	MS DIVYA SINHA SHRI C. K. DIXIT (<i>Alternate</i>)
National Committee on Plasticulture Applications in Horticulture (NCPAH), Ministry of Agriculture & Farmers Welfare, Govt. of India, New Delhi	SHRI ANAND ZAMBRE SHRI KRISHNA KUMAR KAUSHAL (<i>Alternate</i>)
Indian Oil Corporation, R&D Centre, Faridabad	SHRI DHANANJAY SAHOO
ONGC Petro Additions Ltd. (OPAL), Gujarat	SHRI VIVEK MEHTA
Chemical and Petrochemical Manufactures Association (CPMA), New Delhi	SHRI MAHINDER SINGH
Consumer Association of India (CONCERT), Chennai	SHRI G. SANTHANARAJAN SHRI M. R. KRISHNAN (<i>Alternate</i>)
Coca-Cola India Pvt. Ltd., Gurugram	SHRI VIRENDRA LANDGE SHRI RAJENDRA DOBRIYAL (<i>Alternate</i>)
Huhtamaki Paper Product Ltd. (HPPL), Hyderabad	SHRI MUTHUSAMY CHOCKALINGAM SHRI AISHWARYA VANGE (<i>Alternate</i>)
HMEL, Noida	SHRI VINEET KUMAR GUPTA SHRI ALAKESH GHOSH (<i>Alternate</i>)
Food Safety and Standards Authority of India (FSSAI), Delhi	SHRI CHIRAG GADI
Indian Pharmacopoeia Commission, Ghaziabad	DR JAI PRAKASH DR MANOJ KUMAR PANDEY (<i>Alternate</i>)
Technical Training and Research Centre (TTRC), Lohia Group, Kanpur	SHRI R. K. DWIVEDI
IIT, Delhi	SHRI ANUP K. GHOSH
Food Corporation of India (FCI), Delhi	SHRI RAJAGOPAL A. SHRI A. K. U. B. SINGH (<i>Alternate</i>)
Shivalik Agro-Poly Products Ltd., Mohali	SHRI PANKAJ KUMAR MAHAJAN DR G. D. TYAGI (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
IFCA, Delhi	SHRI ATINDRA N. CHAUDHURI
BIS Directorate General	SMT MEENAL PASSI, SCIENTIST 'E' AND HEAD (PCD) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary
SHRI SHIVAM DWIVEDI
SCIENTIST 'B' (PCD), BIS

Panel for Preparing Standard on “Assessment of Biodegradability of Plastics in Varied Conditions”

<i>Organization</i>	<i>Representative(s)</i>
CIPET, Bhubaneswar	DR SMITA MOHANTY (<i>Convener</i>)
ICPE, Mumbai	SHRI T. K. BANDOPADHYAYA
TTRC, Lohia Corp	SHRI RAJEEV K. DWIVEDI
IFCA, Delhi	SHRI ATIN N. CHAUDHURI
ITC, Bangalore	DR MANATESH CHAKRABORTY
Biotechbags, Bangalore	DR T. S. SHANKKER
CSIR-IITR, Lucknow	DR V. P. SHARMA
HMEL, Noida	SHRI VINEET GUPTA
MoEF&CC, New Delhi	DR AMIT LOVE (<i>Special invitee</i>)
CPCB, New Delhi	MS DIVYA SINHA (<i>Special invitee</i>)
ITC, Bangalore	DR KAMAL TYAGI (<i>Special invitee</i>)

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ANNEXURE III

Form- A. Format for obtaining certificate from CPCB for Biodegradable plastic

Carry Bags and commodities by Manufacturer

(Rule 4(h) of Plastic Waste Management Rules, 2018)

S.No.	Item	Detail	
1	Company Details		
	A	Plant Address	
	B	Postal Address	
	C	Unit's PAN	
	D	Unit's GST	
	E	GPS location of the unit	
	F	Plot Area of Facility	
2	<u>Authorized person details</u>		
	A	Name	
	B	Designation	
	C	Email	
	D	Phone no.	
	E	Aadhar No.	
3	A	Registration (From concerned SPCB/PCC(for SUP Manufacturers/ On Centralized EPR Portal for Plastic packaging manufacturers)	
4	Production details		
	A	Raw material used (bio-based/non-bio based, nature of additive used etc.);	
	B	Manufacturing process along with flow diagrams	
	C	Details of end products and by-products	
	D	Plant capacity for manufacturing Biodegradable plastics(TPD)	
	E	Pictures/ Short video of facility to be uploaded with geo tagging	

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S.No.	Item			Detail			
		<ul style="list-style-type: none"> • Raw material Area • Production Process • Product dispatch Area 					
	F	Details of plant Machinery					
	Sl. No	Name of machine	No.	Capacity(TPA)	Power rating(KWH)	Operating Hours	Upload picture
	1						
	2						
	3						
	G	Sanctioned power load of the plant					
5	A	Test Report for Biodegradable Plastics Test reports which covers the first component of the IS 17899 T:2022 a. IS/ISO 14851 or IS/ISO 14852: Ultimate aerobic biodegradability of plastic materials in an aqueous medium <p align="center">Or</p> b. IS/ISO 17556 : Ultimate Aerobic Biodegradation of Plastic materials in soil, <i>Min</i> <p align="center">Or</p> c. IS/ISO 15985 or IS/ISO 14853 : Ultimate Anaerobic Biodegradation, <i>Min</i>					
5	A	Valid Consent Order(Air & Water) from concerned SPCB/PCC					
6	A	Details of pollution control measures.					

Note: 1. Enclose necessary documents wherever applicable.

2. Attach extra sheet for the information where the space is not enough.

Date:

**Signature of the
Applicant**

Place:

(with seal)

ANNEXURE IV

Form- B. Format for obtaining certificate from CPCB for Marketing and Selling of Biodegradable plastic Carry Bags and commodities by Seller

(As per Rule 4(h) of Plastic Waste Management Rules, 2018)

S.No	Item	Details			
1	<u>Seller Details</u> Name Email id Phone No. Aadhar				
2	<u>Business Details</u> Business Address GST No PAN IEC Code (for import)				
	Additional details (for import only) Name, address (including Country of Origin) of the manufacturer from whom the Seller wishes to procure the biodegradable plastic				
3	Procurement Details				
S. No.	Name and Address of manufacturer for procurement of Biodegradable plastic bags/	Quantity proposed to be procured(TPA)	Details of Dealers, Stocklists and Users of the	Name of Product	Test reports as per Indian Standards IS/ISO

Standards Operating Procedure (SOP) for Certification of Biodegradable plastic

	commodities		product		17899: 2022 (in case of imports).
	A	B	C	D	
i					
4	Authorization letter issued by CPCB certified manufacturer(in case of import Authorization issued by the manufacturer from seller proposed to import in the country)				
5	Registration issued by SPCB/PCC under Rule 13(1) of the PWM Rules for manufacture of Biodegradable bags/ commodities				

Note: 1. Enclose necessary documents wherever applicable.

2. Attach extra sheet for the information where the space is not enough.

Date:

Place:

**Signature of
the Seller
(with
seal)**

ANNEXURE V

Certificate No.-

Dated:

To,

M/s....

Sub: Certificate to manufacturer for Manufacturing / Selling of Biodegradable Carry bags or commodities or both

With reference to the application no..... this is to certify that **M/s. (Name & Address of the Unit)** is fulfilling the criteria as per Standard Operating Procedure (SOP) for issuing certificate as per the provisions '4(h)', '10', '11(c)' of Plastic Waste Management Rules, 2018, for manufacturing and selling of biodegradable carry bags or commodities or both in Indian Market as '**MANUFACTURER**'.

Certificate for manufacturing and selling of biodegradable plastic bags and commodities in Indian market is hereby issued to to..... as '**MANUFACTURER**' with the following conditions:

- i. The end product shall be manufactured using the raw materials and following the production process(**Annexure I**)
- ii. Each carry bag or commodities or both made from biodegradable material or plastic shall bear a label "**BIODEGRABLE**" **IS/ISO:17899** titled as Specifications for "biodegradable Plastic" in **English & regional language**. Each carry bag or commodities or both shall also have printed code: ...and Certificate Number of "**MANUFACTURER**". The manufacturer shall generate QR code based on the details (Name, plant address, CPCB certificate no. etc.) provided in the certificate issued by CPCB and QR code shall be provided on each of the carry bag manufactured at the certified unit. The "verifiable" details of the QR code shall be shared with the SPCB/PCC/CPCB within one month of issue of this Certificate.
- iii. The provisional certificate shall be valid till 30th June 2023 with the condition that production or import of biodegradable plastics shall cease after the 31st

day of March, 2023. The Consent to produce Biodegradable plastics shall be operative till March 31, 2023

- iv. The manufacturers producing Plastic packaging shall register as producer on EPR Portal. He / she shall fulfil the EPR liability as per notified EPR Guidelines in case final testing of biodegradability as per IS/ISO 17899:2022 fails. / The SUP items manufacturers shall provide monthly details of productions & sales upto June 30, 2023 and in case the samples fails , Environmental Compensation shall be levied based upon polluter pays principle for the intervening period. (Clause as applicable to be included)
- v. The Manufacturer shall provide six-monthly report giving details of raw material procurement and product sale to SPCB/PCC/CPCB as per the prescribed format.
- vi. The “Manufacturer” shall comply with provisions of PWM Rules/ Guidelines issued from time to time by the Ministry of Environment, Forest & Climate Change or Central Pollution Control Board.
- vii. The manufacturer/seller shall manufacture/sell the Biodegradable carry bags or commodities or both only after they obtain a valid Registration for manufacturing of biodegradable carry bags or commodities or both from concerned SPCB/PCC. The Registration should be submitted to CPCB within 03 months of issue of the Certificate by CPCB, failing which the Certificate shall stand Cancelled .**(To be included if valid registration is not submitted along with the application)**
- viii. If the certified Manufacturer is found non-complying with the provisions of the PWM Rules, 2018, the Certificate shall stand cancelled.

(Name & designation)

ANNEXURE VI

Certificate to seller for Marketing and Selling of Biodegradable Carry Bags or commodities or both

Certificate No.-

Dated:

To,

M/s....

With reference to the application no..... this is to certify that **M/s.** is fulfilling the criteria as per Standard Operating Procedure (SOP) for issuing certificate as per the provisions '4(h)', '10', '11(c)' of Plastic Waste Management Rules, 2018, for marketing and selling of biodegradable carry bags or commodities or both in Indian Market as '**SELLER**'.

Central Pollution Control Board, hereby, grant the permission to **M/s.** as '**SELLER**' for Marketing and Selling of Biodegradable carry bags or commodities or both in Indian Market subject to the following conditions

- i. The Certified '**SELLER**', **M/s.....**, shall comply with the provisions of '**4(h)**', '**10**', '**11(c)**' of the PWM Rules, 2018, notified under the Environmental (Protection) Act, 1986.
- ii. The certified Seller, **M/s.**, shall comply with conditions for compliance as per any Guidelines issued from time to time by the Ministry of Environment, Forest & Climate Change or Central Pollution Control Board.
- iii. The seller shall provide six-monthly details of procurement of biodegradable carry bags or commodities or both from CPCB certified manufacturer as per prescribed format.
- iv. The seller shall provide quantity details of sales of Biodegradable carry bags or commodities or both.
- v. Each carry bag or commodities or both made from Biodegradable material or plastic shall bear a label "**BIODEGRABLE**" **IS/ISO:17899** titled as Specifications for "biodegradable Plastic" in **English & regional language**. Each carry bag or commodities or both shall also have printed M/s: ...; code.... and Certificate Number of "**Seller**".
- vi. If any stage, information provided by the seller, is found to be incorrect then the Certificate granted by CPCB shall stand cancelled.

(Name & designation)

ANNEXURE VII

Format for Six-monthly Report

Duration - - - to - - -

For manufacturer :

1. Details of manufacture of biodegradable carry bags or commodities or both

S.No.	Name of the Raw material suppliers	Date of Purchase	Quantity(kg)	Supporting documents (invoice copy No.)	GST details
i.					
ii.					
iii.					

2. Details of sale of biodegradable carry bags or commodities or both

S.No.	Name of the firms/distributers to which biodegradable carry bags or commodities or both sold	Date of sale	Quantity(kg)	Supporting documents (invoice copy No.)	GST details
i.					

For seller :

1. Details of purchase of biodegradable carry bags or commodities or both

S.No.	Name of the CPCB certified manufacturers	Date of Purchase	Quantity(kg)	Supporting documents (invoice copy No.)	GST details
i.					
ii.					
iii.					

2. Details of sale of biodegradable carry bags or commodities or both

S.No.	Name of the firms/distributors to which <u>biodegradable</u> carry bags or commodities or both sold	Date of sale	Quantity(kg)	Supporting documents (invoice copy No.)	GST details
i.					
ii.					

ANNEXURE VIII

INSPECTION REPORT FOR Biodegradable PLASTIC MANUFACTURER

Date of Inspection: _____

01.	Name and complete Postal Address of the industry.				
02.	Contact Person with Telephone / Fax / E-mail.				
04.	Name & designation of the officials conducting inspection				
	GPS location of the unit				
	Plant Area of the unit				
05.	Year of commissioning.				
06.	Information about the industry				
	a. Installed capacity				
	(b) Actual production				
	c) Number of employees .				
07.	Status of Consent to operate(Air & Water Act) / Registration (PWM Rules) / Authorization (HWM Rules) (Validity date to be provided) (Pl. attach copy)		Consent (Air) :		
			Consent (Water)		
			Registration (PWM Rules)		
			Authorization (HWM Rules)		
08.	Raw Material Details				
	Sl. No	Raw material	Consumption per tonne of the product	Source of procurement (pl. attach supporting document)	GST details
	i				

Standards Operating Procedure (SOP) for Certification of Biodegradable plastic

	ii				
	iii				
09.	Products & By-products details				
	Sl. No.	Product/ product	By- (TPD)	Quantity produced	Details regarding products sales (pl. attach supporting documents)
10.	Production and Machinery Details				
A	Process details with Block Diagram.				
B	Pictures of facility to be uploaded with geo tagging <ul style="list-style-type: none"> • Raw material Area • Production Process • Product dispatch Area 				
C	Details of machinery				
	Name of Machine No. Capacity(TPA) Power rating of machine Operating Hours Upload Picture				
D	Sanctioned power load of the plant				
E	Last Electricity Bill				
12	Confirmation regarding marking and labelling of Biodegradable carry bags or commodities or both as per provisional certificate (Yes/No)				

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13	Confirmation regarding bar coding of Biodegradable carry bags or commodities or both (Yes/no)	
13	Confirmation regarding availability of raw material for Biodegradable carry bag or commodities or both (as per provisional certificate) at the unit (Yes/No)	
14	Confirmation regarding availability of finished product for Biodegradable product (as per provisional certificate) at the unit (Yes/No)	
13.	<i>Operational status :</i>	
23	<i>Recommendations :</i>	
24.	Signature of the visiting officials.	

ANNEXURE IX

**FORMAT FOR BI-ANNUAL REPORT ON BIODEGRADABLE PLASTICS TO BE
SUBMITTED BY SPCB/PCCs to CPCB**

DURATION :

Sl.No	Item	Remarks
1	Number of biodegradable plastic manufacturing units in the State/UT	
2	Total Production capacity of the units	
3	Information as per Six-monthly Reports submitted by the Units	
a	Number of units which have submitted Six-monthly Reports	
b	Total raw material consumption (Tonnes for six-months period)	
c	Actual Production of the units (Tonnes for six-months period)	
d	Actual Product Sales of the units(Tonnes for six-months period)	
4	Inspection of Units	
a	Number of Units inspected during the quarter (Please attach the inspection report)	
b	Number of units found complying with the provisions of PWM Rules	
c	Number of units found non complying with the provisions of the unit	
5	Market Survey	
a	Number of manufacturers whose products were available in the market	
b	Number of product samples collected from the market	

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SI.No	Item	Remarks	
c	Number of samples found complying with labelling/ barcode requirement		
d	Number of samples found complying with barcode requirement		
e	Number of samples tested in CIPET of recognized Govt. laboratory		
f	Number of samples found complying with the IS/OSO17088 Test requirement		
6	Action against non-complying units		
SI. No.	Name of the unit	Nature of non-compliance	Action taken against the non-complying unit