Category of the Industry :

GREEN

CONSENT ORDER NO. 2504166013031 DATED: 22/03/2025.

PROCEEDINGS NO.F.1394GMP/GS/DEE/TNPCB/GMP/W/2025 DATED: 22/03/2025

SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE –After CTE -M/s. JAVAGREEN ECO LLP , S.F.No. 105/1B, 105/2, 105/10B, 105/11B, EGUVARPALAYAM village Gummidipoondi Taluk and Tiruvallur District - Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg. (Industry User ID-G23GMP56236734)

REF: 1. B.P. No.06 dated 02.08.2016 and B P.No.19 dated 03.04.2023
2. CTE Proc.No.F.1394GMP/GS/DEE/TNPCB/GMP/W&A/2024 dated 09.03.2024
3. Unit's application for CTO after CTE through online vide application no. 66013031 on 21.03.2025
4. IR.No:F.1394GMP/GS/AEE/GMP/2025 dated 21.03.2025
5. Minutes of the 150th DLCCC meeting held on 21.03.2025 vide item No (150 - 04)

CONSENT TO OPERATE is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Managing Partner
M/s . JAVAGREEN ECO LLP
S.F No. 105/1B, 105/2, 105/10B, 105/11B
EGUVARPALAYAM Village
Gummidipoondi Taluk
Tiruvallur District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending **March 31, 2028**

P S LIVINGSTON Digitally signed by P S LIVINGSTON
Date: 2025.03.22 16:59:59 +05'30'
District Environmental Engineer,
Tamil Nadu Pollution Control Board,
GUMMIDIPOONDI

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE GOVT OF INDIA

Certificate No.: CPCB-UPC-11/ITC LTD/Telangana/89 Dated: 18.01.2024

To,

M/s ITC LTD
PSPD, UNIT-BOLLARAM, ANRICH INDUSTRIAL ESTATE,
BOLLARAM VILLAGE, JINNARAM MANDAL,
SANGAREDDY DISTRICT, TELANGANA-502325

Sub: Certificate to manufacturer for Manufacturing/ Selling of Compostable Carry Bags and Commodities.

With reference to the application no. **ITC LTD/Telangana/89 dated 16 Jan 2024** this is to certify that **M/s ITC LTD** plant located at **PSPD, UNIT-BOLLARAM, ANRICH INDUSTRIAL ESTATE, BOLLARAM VILLAGE, JINNARAM MANDAL, SANGAREDDYDISTRICT, TELANGANA-502325** is fulfilling the criteria as per revised Standard Operating Procedure (SOP) for issuing certificate as per the provisions '4(h)'&'11(c)' of Plastic Waste Management Rules, 2018, for manufacturing and selling of compostable carry bags in Indian Market as **'MANUFACTURER'.**

Certificate for manufacturing and selling of compostable plastic bags and commodities in Indian market is hereby issued to **M/s ITC LTD** plant located at **PSPD, UNIT-BOLLARAM, ANRICH INDUSTRIAL ESTATE, BOLLARAM VILLAGE, JINNARAM MANDAL, SANGAREDDY DISTRICT, TELANGANA-502325** as **'MANUFACTURER'** with the following conditions:

Each carrybag and commodities made from compostable material or plastic shall bear a label **"COMPOSTABLE" IS/1SO:17088** titled as Specifications for "Compostable Plastic" in **English** & **regional language**. Each carrybag and commodities 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 and commodities 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.

Contd….2

दिव्या सिन्हा / Divya Sinha
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
M/o Environment, Forest & Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032

This certificate issued by CPCB shall not require renewal. However, a fresh application shall be filed with CPCB for grant of certificate, in case there is any change in raw material/ production process or product.

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.

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.

If the certified Manufacturer is found non-complying with the provisions of the PWM Rules, 2018, the Certificate shall stand cancelled.

(Divya Sinha)
Director & I/c UPC-II

दिव्या सिन्हा / Divya Sinha
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
M/o Environment, Forest & Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032

सिपेट : एस. ए. आर. पि.-पॉलीमेरीक, मटेरीयल में अत्याधुनिक अनुसंधान हेतु प्रयोगशाला
रसायन एवं पेट्रोरसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार
बी/ २५, सि.एन.आई.कॉम्पलेक्स, पटिआ, भुवनेश्वर-751024, ओडिशा
CIPET : SARP - LABORATORY FOR ADVANCED RESEARCH IN POLYMERIC MATERIALS
Dept. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India
B/25, C.N.I. Complex, Patia, Bhubaneswar-751 024, Odisha
Ph : 0674 - 2742852, 2740173, Fax : 0674 - 2740463
E-mail : larpm@cipet.gov.in, Web : www.larpm.gov.in
सिपेट CIPET

LARPM/CIPET/Testing/2023-24/ **Date- 09.10.2023**

To,
Mr. SAYANTAN BASAK
M/s. ITC Limited Paperboards & Specialty Papers Division,
Unit-Bollaram, Anrich Industrial Estate,
Bollaram Village, Jinnarammandal,
Sangareddy, Telangana – 502325
Mob: 9007755038

Sub –Test Report –Reg.

Dear Sir,

Ref No: 1) SSF dated 01.08.2022 & email dated 30.06.2022 & 16.06.2023
2) Our Work Order No.: LARPM/BBS./2022-23/137 dated 08.09.2022

With reference to the above cited subject, please find enclosed herewith **Test Report No. 00988 dated 09.10.2023.**

Kindly acknowledge the receipt of the same.

Thanks & Regards,

Director & Head
(Principal Scientist)

Encl: As above

सिपेट : एस. ए. आर. पि.-पॉलीमेरीक, मटेरीयल में अत्याधुनिक अनुसंधान हेतु प्रयोगशाला
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सिपेट CIPET

CERTIFICATE OF ANALYSIS AS PER ISO 17088:2021

LARPM/CIPET/Testing/2023-24/ **Date-09.10.2023**

To,
M/s. ITC Limited Paperboards & Specialty Papers Division,
Unit-Bollaram, Anrich Industrial Estate,
Bollaram Village, Jinnarammandal,
Sangareddy, Telangana – 502325

Sub –Test Report–Reg.

Dear Sir,

Ref No : 1) SSF dated 01.08.2022 & email dated 30.06.2022 & 16.06.2023
2) Our Work Order No.: LARPM/BBS./2022-23/137 dated 08.09.2022

With reference to the above, the submitted sample was analyzed as per ISO 17088:2021. The summary detail of testing & analysis is given below:

Company Name & Address	**: M/s. ITC Limited Paperboards & Specialty Papers Division, Unit-Bollaram, Anrich Industrial Estate, Bollaram Village, Jinnarammandal, Sangareddy, Telangana – 502325**
Sample Details	**: "FiloPack/FiloBev/FiloTub"** - as stated by the party
Test Report No	**: 00988 & dated 09.10.2023**
Date of Receipt of sample	**: 08.09.2022**
Date of Initiation	**: 20.01.2023**
Date of Completion	**: 09.10.2023**
Percentage of Compostability In 180 days	**: 90.81**
Requirement of Compostability in 180 days as per ISO 17088:2021	**: 90 %**

The sample submitted **by M/s. ITC Limited Paperboards & Specialty Papers Division** is compostable and the percentage of compostability in **180 days reported vide test report No. 00988 is 90.81%.**

The submitted sample also complies with the terms of compostability seed germination and disintegration as per ISO 17088:2021.

Thanks & Regards,

Dr. Akshaya Kumar Palai
(Quality Manager)
Encl : Analysis Report

सिपेट : एस. ए. आर. पि.-पॉलीमेरीक, मटेरीयल में अत्याधुनिक अनुसंधान हेतु प्रयोगशाला
रसायन एवं पेट्रोरसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार
बी/ २५, सि.एन.आई.कॉम्पलेक्स, पटिआ, भुवनेश्वर-751024, ओडिशा
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सिपेट CIPET

459475

ANALYSIS REPORT

Report No. : 00988
Date : 09.10.2023

Issued to
M/s. ITC Limited Paperboards & Specialty Papers Division,
Unit-Bollaram, Anrich Industrial Estate,
Bollaram Village, Jinnarammandal,
Sangareddy, Telangana – 502325

Customer Ref. No. & Date : SSF dated 01.08.2022 & email dated 30.06.2022 & 16.06.2023
Work order Ref. No. & Date : LARPM/BBS./2022-23/137 dated 08.09.2022
As per Standard : Refer part C

PART A: PARTICULARS OF SAMPLE SUBMITTED

a) Name of the Sample	: **"FiloPack/FiloBev/FiloTub"**-as stated by the party.
b) Grade/verity/Type/Size/Class etc.	: Nil.
c) Code No.	: Nil.
d) Quantity (pcs./mtr/gm/nos)	: 500g.
e) Mode of packing (Sealed carton/polypouch/container or not)	: Packed in Carton.
f) Date of receipt of sample	: 08.09.2022
g) Date of Performance of test	: 20.01.2023 – 09.10.2023
h) Any other information	: Interim Report No. 00923 dated 03.08.2023

PART B: SUPPLEMENTARY INFORMATION

a) Reference to sampling procedure	: Drawn & Supplied by the party
b) Supporting documents for Measurements taken and results derived like graphs, tables, sketches and/or Photographs as appropriate to test report if any (to be attached)	: As per part -C
c) Deviation from the test methods as Prescribed in relevant ASTM/ISO/BIS/ Work Instructions, If any-	: Nil

09.10.2023
Mr. Pinaki Chatterjee
(Technical Manager)
AUTHORISED SIGNATORY

09.10.2023
Dr. Akshaya Kumar Palai
(Quality Manager)
AUTHORISED SIGNATORY

सिपेट : एस. ए. आर. पि.-पॉलीमेरीक, मटेरीयल में अत्याधुनिक अनुसंधान हेतु प्रयोगशाला
रसायन एवं पेट्रोरसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार
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सिपेट CIPET

PART C: TEST RESULTS **ANALYSIS REPORT**

Report No : 00988
Date : 09.10.2023

Sl. No	Name of the Test	Test Method/Standard	Unit	Results Obtained	Specified Requirements
	Sample Details: "FiloPack/FiloBev/FiloTub- as stated by the party				
1.	Material Identification	FTIR/DSC	--	Paper material , one side ethylene acrylic based dispersion coating & other side $CaCo_3$ based dispersion coating	---
2.	Disintegration (Dry mass remains in 2 mm sieve after 84 days)	Cl. 6.2 of ISO 17088:2021	%	8.00	Not more than 10% of its original dry mass
3.	Ultimate aerobic Biodegradation (with reference to 100% degradation of positive reference)	Cl. 6.3.1 of ISO 17088:2021 ISO:14855-1	%	90.81 (at the end of 180 days)	> 90 (at the end of the test period not more than 180 days.)
4.	Plant Growth study **a) Monocotyledon (Rice)** % Seed Emergence **b) Dicotyledon (Mung)** % Seed Emergence	Cl. 6.4.3 of ISO 17088:2021 (Annex C)	 % %	 95.73 96.03	 > 90 > 90

09.10.2023
Mr.Pinaki Chatterjee
(Technical Manager)
AUTHORISED SIGNATORY

09.10.2023
Dr. Akshaya Kumar Palai
(Quality Manager)
AUTHORISED SIGNATORY

सिपेट : एस. ए. आर. पि.-पॉलीमेरीक, मटेरीयल में अत्याधुनिक अनुसंधान हेतु प्रयोगशाला
रसायन एवं पेट्रोरसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार
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सिपेट CIPET

PART C: TEST RESULTS **ANALYSIS REPORT**

Report No : 00988
Date : 09.10.2023

Sl. No	Name of the Test	Test Method/Standard	Unit	Results obtained	Specified Requirements
5.	**Acute Ecotoxic Effects to earthworm**				
a.	Survival of adult earthworm at the end of 7 days	Cl. 6.4.4 of ISO 17088-2021 (Annex D)	%	100	> 90% of those from the corresponding blank compost
b.	Survival of adult earthworm at the end of 14 days		%	100	
c.	Biomass at the end of 14 days		%	98.25	
6.	**Chronic Ecotoxic Effects to earthworm**				
a.	Survival of adult earthworm at the end of 28 days	Cl. 6.4.5 of ISO 17088-2021 (Annex E)	%	100	> 90% of those from the corresponding blank compost
b.	Offspring at the end of 56 days		%	93.6	
c.	Biomass at the end of 56 days		%	100	

Note: The detailed observation on biodegradability test is enclosed as **Annexure-I.**

09.10.2023
Mr.Pinaki Chatterjee
(Technical Manager)
AUTHORISED SIGNATORY

09.10.2023
Dr. Akshaya Kumar Palai
(Quality Manager)
AUTHORISED SIGNATORY

सिपेट : एस. ए. आर. पि.-पॉलीमेरीक, मटेरीयल में अत्याधुनिक अनुसंधान हेतु प्रयोगशाला
रसायन एवं पेट्रोरसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार
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सिपेट CIPET

ANALYSIS REPORT

Report No.: 00988
Date : 09.10.2023

PART C: TEST RESULTS

Sl. No	Name of the Test	Test Method/ Standard	Unit	Results obtained	Specified Requirements (*)
7.	**Heavy metals concentration**				
a	Arsenic (As)	ISO 17088: 2021	mg/kg	0.03	10
b	Cadmium (Cd)			0.01	5
c	Chromium (Cr)			0.82	50
d	Copper (Cu)			0.71	300
e	Lead (Pb)			1.06	100
f	Mercury (Hg)			0.01	0.15
g	Nickel (Ni)			0.86	50
h	Zinc (Zn)			1.18	1000

(*) – Based on the solid waste management Rules, 2016 notified on 08th April 2016 by Ministry of Environment, Forests & Climate Change, Government of India.

PART D: REMARKS: NIL

Note:
1. This Test Report / Certificate is issued only for the samples submitted to CIPET:SARP-LARPM.
2. The results stated above related only to the items tested.
3. The quality of the subsequent production lot has to be ensured by the purchaser.
4. This Test Report shall not be reproduced except in full without the written approval of the laboratory.
5. Any anomaly/discrepancy in this report should be brought to the notice of CIPET:SARP-LARPM within 30 days from the date of issue.
6. Subcontracted Tests (if any): Nil.

** End of the Report **

09.10.2023
Mr. Pinaki Chatterjee
(Technical Manager)
AUTHORISED SIGNATORY

09.10.2023
Dr. Akshaya Kumar Palai
(Quality Manager)
AUTHORISED SIGNATORY

TR.NO. –00988 **ANALYSIS RESULT** **Date : 09.10.2023**

OBSERVATION FOR BIODEGRADABILITY TEST AS PER ISO 17088:2021

To

M/s. ITC Limited Paperboards & Specialty Papers Division,
Unit-Bollaram, Anrich Industrial Estate,
Bollaram Village, Jinnarammandal,
Sangareddy, Telangana – 502325

Date of Initiation : **20.01.2023**
Date of Completion : **09.10.2023**

1. **Sample detail: FiloPack/FiloBev/FiloTub -** as stated by the party.
2. **Material Identification by DSC & FTIR:** DSC & FTIR graph indicates the base material of the supplied sample is Paper material , one side ethylene acrylic based dispersion coating & other side $CaCo_3$ based dispersion coating.
3. **Observation: -**

a. Conditions of reaction mixtures

Origin of compost: Vermicompost, garden waste, Municipality waste Reaction

Temperature	: 58°C (±2°C)
Dry Solid	: 52.74(%)
Volatile Solid	: 30.29 (%)
Test duration	: 180 days
Reference material	: Cellulose
Volume of reaction vessel	: 3000 ml

b. pH of test medium:-

Sl. No.	Composting Vessel	pH(before)	pH(After)
1	Blank 1	7.4	7.3
2	Blank 2	7.3	7.3
3	Blank 3	7.5	7.4
4	Positive 1	7.3	7.4
5	Positive 2	7.6	7.5
6	Positive 3	7.5	7.4
7	Negative 1	7.6	7.5
8	Negative 2	7.7	7.5
9	Negative 3	7.6	7.4
10	Sample-1	7.4	7.3
11	Sample-2	7.5	7.5
12	Sample-3	7.7	7.6

09.10.2023
Mr. Pinaki Chatterjee
(Technical Manager)
AUTHORISED SIGNATORY

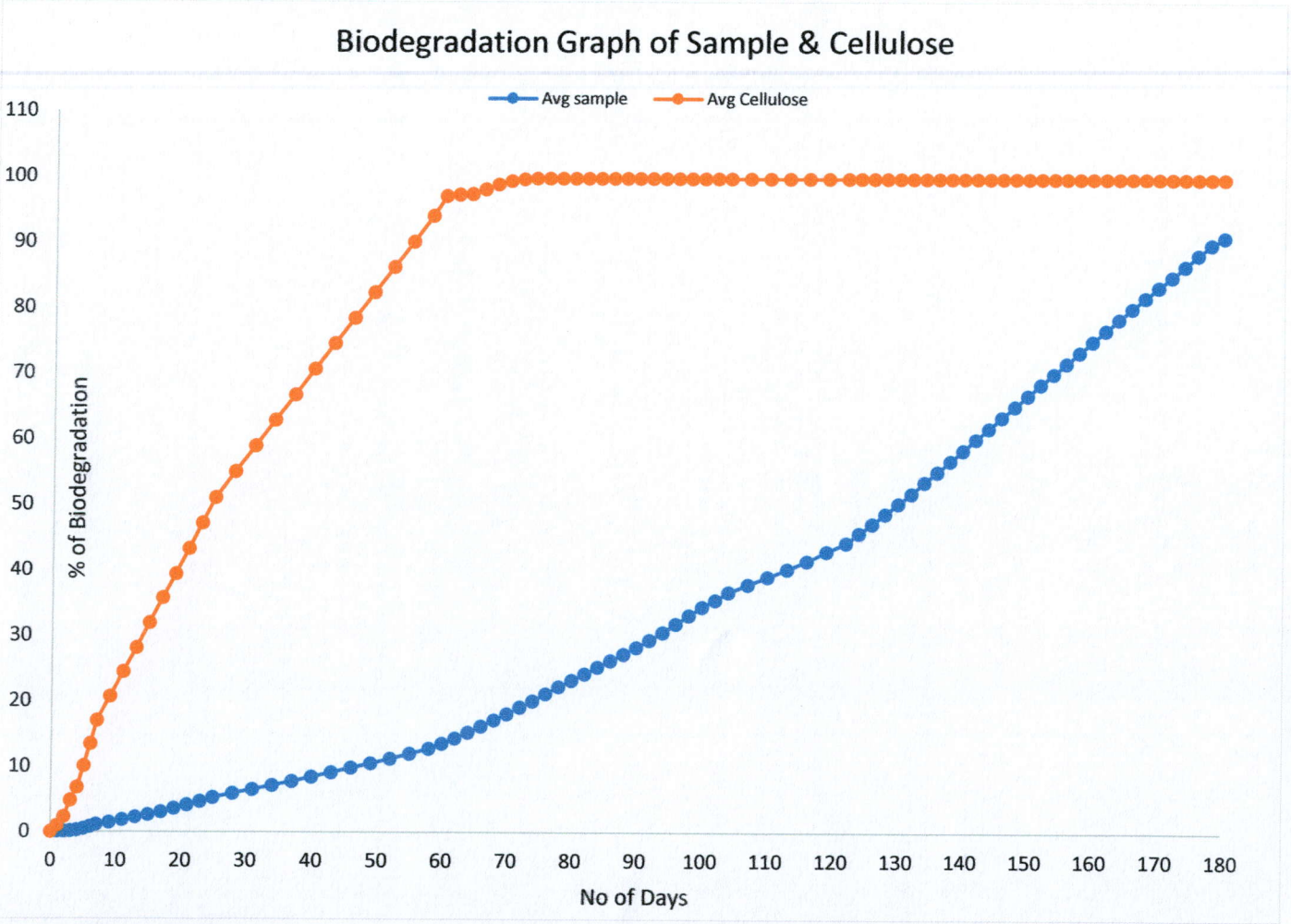
09.10.2023
Dr. Alahayu Kumar Pulai
(Quality Manager)
AUTHORISED SIGNATORY

TR.NO. –00988 **ANALYSIS RESULT** **Date : 09.10.2023**

4. Result: Percentage biodegradation relative to positive reference

MEAN(%) **: 90.81 %**

The reference material-cellulose (%) **: 100**



5. Visual Observation:-

	Week 1	Week 2	Week 3	Week 4	Week 5
Structure	Paper	Paper	Paper	Paper	Paper
Moisture	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level
Color	White	White	White	White	White
Fungal Development	None	None	None	None	None
Smell	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like

Mr.Pinaki Chatterjee
(Technical Manager)
AUTHORISED SIGNATORY

09.10.2023

Dr. Akshaya Kumar Palai
(Quality Manager)
AUTHORISED SIGNATORY

TR.NO. –00988 ANALYSIS RESULT Date : 09.10.2023

	Week 6	Week 7	Week 8	Week 9	Week 10
Structure	Paper	Paper	Paper	Paper	Paper
Moisture	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level
Color	White	White	White	White	White
Fungal Development	None	None	None	None	None
Smell	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like

	Week 11	Week 12	Week 13	Week 14	Week 15
Structure	Disintegration initiated	Disintegration observed	Disintegration observed	Disintegration observed	Disintegration observed
Moisture	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level
Color	-----	-----	-----	-----	-----
Fungal Development	None	None	None	None	None
Smell	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like

	Week 16	Week 17	Week 18	Week 19	Week 20
Structure	Disintegration observed	Disintegration observed	Disintegration observed	Disintegration observed	Disintegration observed
Moisture	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level
Color	----	----	----	----	----
Fungal Development	None	None	None	None	None
Smell	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like

	Week 21	Week 22	Week 23	Week 24	Week 25/26
Structure	Disintegration observed	Disintegration observed	Disintegration observed	Disintegration observed	Disintegration observed
Moisture	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level	Appropriate moisture Level
Color	----	----	----	----	----
Fungal Development	None	None	None	None	None
Smell	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like	Organic/dirt like

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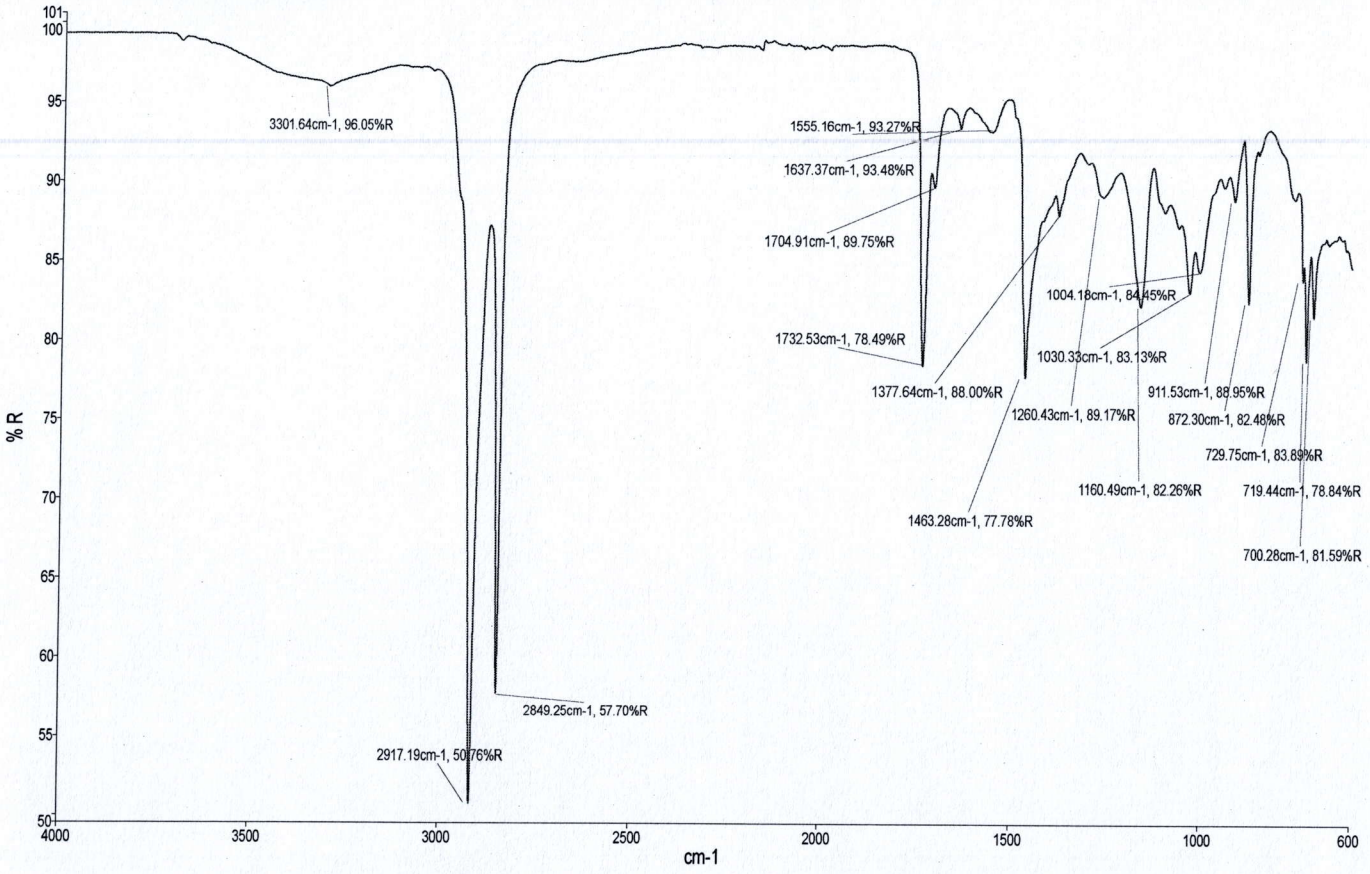
6. FTIR Analysis:-



Wave number (cm^{-1})	Possible Nature of Bond
2917.19, 2849.25	CH Stretch
1704.91,1732.53	C=O Stretch
1463.28	CH Bend
719.44	CH_2 Rock

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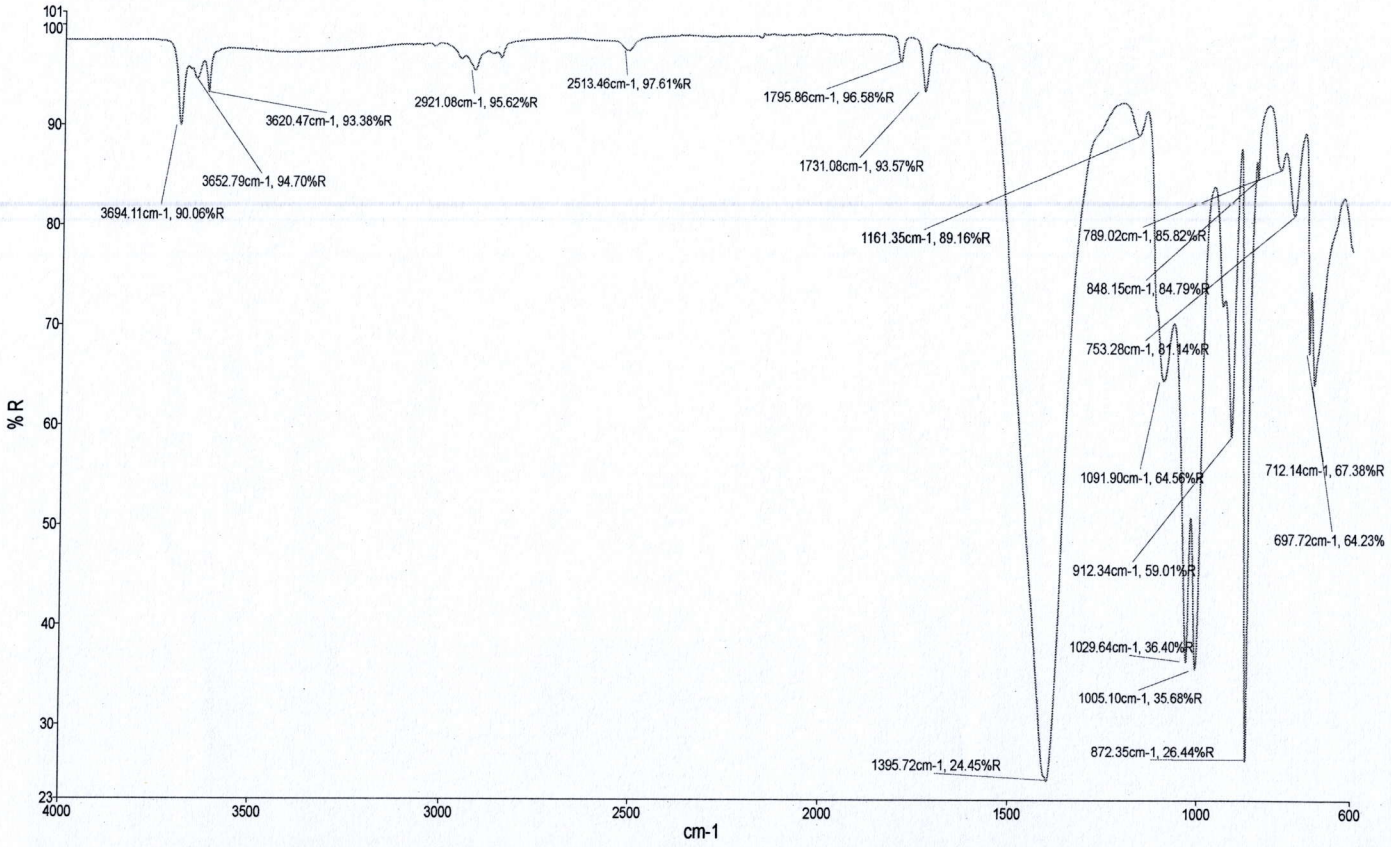
6.1 FTIR Analysis:-



Wave number (cm^{-1})	Possible Nature of Bond
1395.72	V_3 Asymmetric stretch
872.35	V_2 out of plane bend
712.14	V_4 In plane bend

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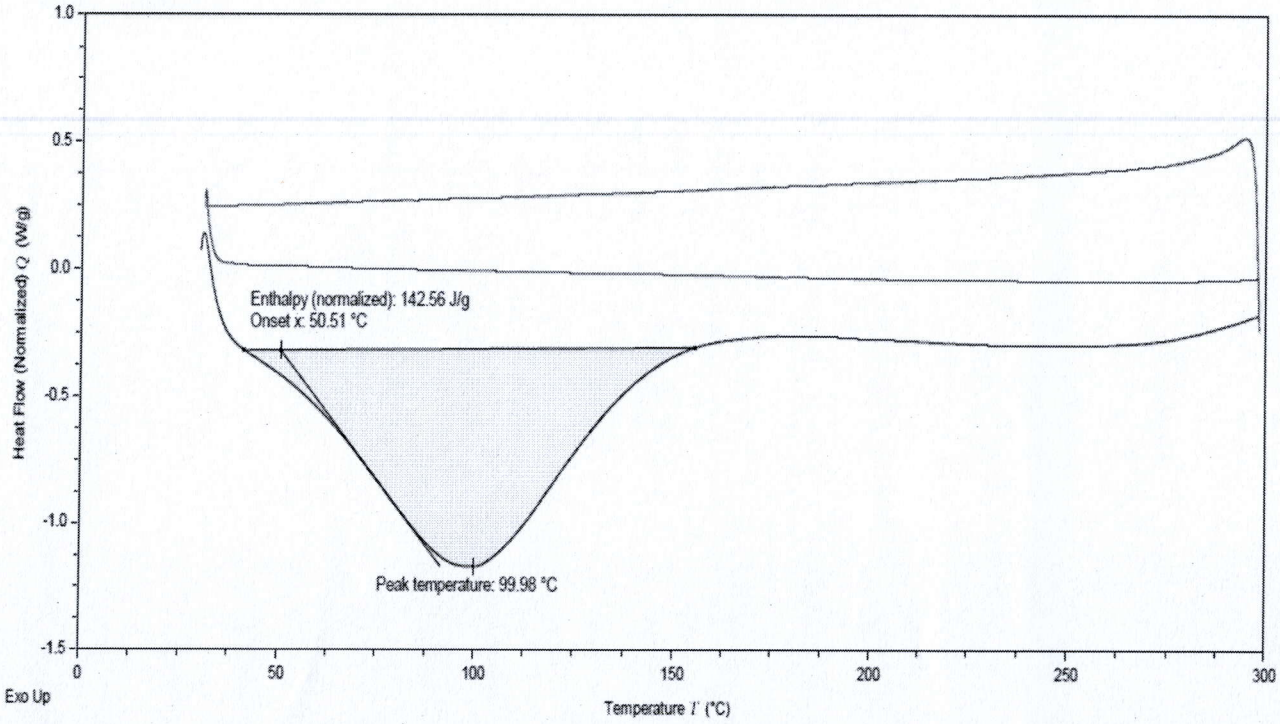
7. **DSC Analysis:-**



Comment: DSC & FTIR graph indicates the above sample is Paper material , one side ethylene acrylic based dispersion coating & other side $CaCo_3$ based dispersion coating.

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8. DISINTEGRATION- AFTER 12 WEEKS

BEFORE DISINTEGRATION

AFTER DISINTIGRATION

Comment:-

The disintegration of the supplied sample by passing through 2 mm sieve after 12 week in composting condition as per ISO 17088-2021 was found not more than 10% of original dry mass remain.

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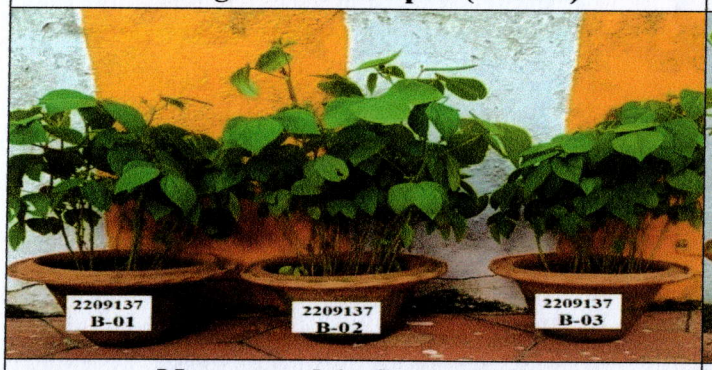
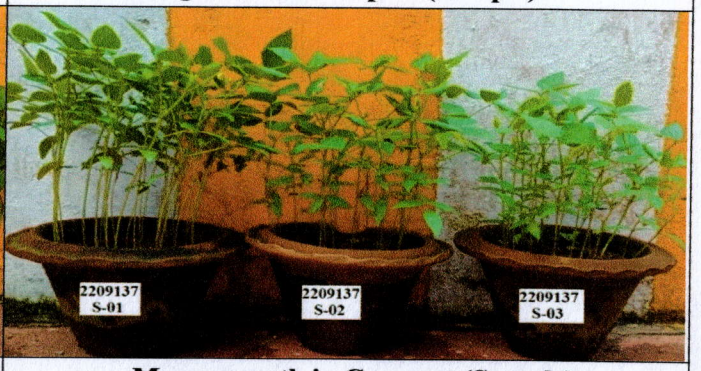
9. Germination and Plant Growth Study

Rice growth in Compost (Control)

Rice growth in Compost (Sample)



Mung growth in Compost (Control)



Mung growth in Compost (Sample)

The percentage of seedling germination rate was found greater than 90% for both control and sample.

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