



परिक्षण रिपोर्ट / TEST REPORT

Annexure-I

TR.NO. -16026 (Final)

ANALYSIS RESULT

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Date: 17.09.2025

OBSERVATION FOR BIODEGRADABILITY TEST AS PER ISO 17088:2021

Date of Initiation : 26.02.2025
Date of Completion : 17.09.2025

1. Sample detail : Bio Compostable Cutlery Sample - As stated by the party
2. Material Identification by DSC & FTIR: DSC & shows that the supplied material is PLA and PBAT based cutlery sample


3. Observation: -


a. Conditions of reaction mixtures

Origin of compost: Livestock excreta, municipality waste and vegetable waste
Reaction Temperature : 58 °C (± 2°C)
Dry Solid : 51.94 (%)
Volatile Solid : 30.58 (%)
CO₂ evolved during 1st 10 days in blank vessels : 100.96mg/g of volatile solids
Test duration : 129 days (under compost)
Reference material : Cellulose
Volume of reaction vessel : 3000 ml

b. pH of test medium :-

Composting Vessel	pH (Before Test)	pH (After Test)
Blank 1	7.3	7.4
Blank 2	7.3	7.4
Blank 3	7.4	7.5
Cellulose1	7.3	7.4
Cellulose2	7.5	7.5
Cellulose3	7.6	7.6
Negative 1	7.7	7.8
Negative 2	7.7	7.8
Negative3	7.7	7.8
Sample 1	7.2	7.3
Sample 2	7.3	7.3
Sample 3	7.4	7.4


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Manager (T)


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Director & Head

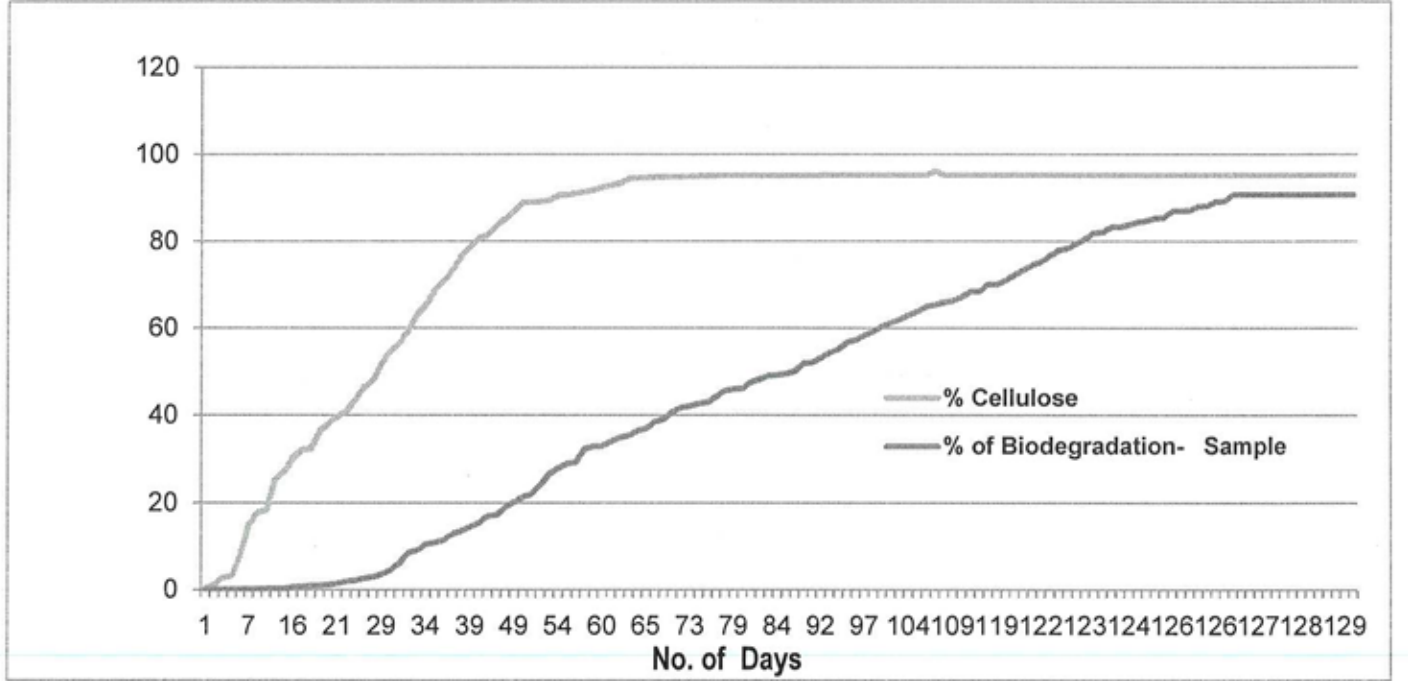


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4. Result: Percentage biodegradation relative to positive reference
MEAN (%) : 90.73
The reference material-cellulose (%) : ~100



5. Visual Observation:-

	Week 1	Week 2	Week 3	Week 4	Week 5
Structure	Cutlery sample	Cutlery sample	Cutlery sample	Cutlery sample	Cutlery sample
Moisture	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level
Color	Cream White	Cream White	Cream White	Cream White	Cream White
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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	Week 6	Week 7	Week 8	Week 9	Week 10
Structure	Cutlery sample	Cutlery sample	Cutlery sample	Cutlery sample	Cutlery sample
Moisture	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level
Color	Cream White	Cream White	Cream White	Cream White	Cream 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	Cutlery sample	Cutlery sample	Cutlery sample	Cutlery sample	Cutlery sample
Moisture	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level
Color	Brown	Brown	Brown	Brown	Brown
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		
Structure	Disintegrated cutlery sample	Disintegrated cutlery sample	Disintegrated cutlery sample		
Moisture	Appropriate moisture level	Appropriate moisture level	Appropriate moisture level		
Color	--	--	--		
Fungal Development	None	None	None		
Smell	Organic/dirt like	Organic/dirt like	Organic/dirt like		


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