



Eden Research Laboratory

To: Shanlian

Date: April 9, 2021

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Number of pages including cover: 1

Update

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Regarding: Eden Research Laboratory has conducted a biodegradability study on film supplied by Shanlian New Materials for 779 days.

Study Conducted: ASTM D 5511 - Standard Test Method to Determine Anaerobic Biodegradation of Plastic Materials Under High-Solids Anaerobic-Digestion Conditions

Samples Studied: Shanlian New Material 20g in triplicate of plastic film.

Results: It was found to take 779 days for 90% of the polypropylene component of the film sample tested to convert into CO₂, CH₄, water, and biomass forms.

	Inoculum	Negative	Positive	2146 - FL60-EBA65 cream - sheets of plastic
Cumulative Gas Volume (mL)	1488.5	1468.4	10619.7	12085.0
Percent CH ₄ (%)	44.5	43.0	40.8	50.9
Volume CH ₄ (mL)	661.9	631.1	4337.8	6146.6
Mass CH ₄ (g)	0.47	0.45	3.10	4.39
Percent CO ₂ (%)	39.9	38.7	41.7	37.1
Volume CO ₂ (mL)	593.4	568.3	4433.5	4484.7
Mass CO ₂ (g)	1.17	1.12	8.71	8.81
Sample Mass (g)	10	10	10	20.0
Theoretical Sample Mass (g)	0.0	8.6	4.2	5.6
Biodegraded Mass (g)	0.67	0.64	4.70	5.70
Percent Biodegraded (%)		-0.3	95.4	90.3

Biodegradation

