



TEST LOCATION

TÜV SÜD China

TÜV SÜD Products Testing (Shanghai) Co., Ltd.
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Shanghai 201108, P.R. China

CLIENT NAME

Zhejiang Anshun Pettechs Fibre Co., Ltd

CLIENT ADDRESS

Road 12-1, Dongzhou Industry Zone, Fuyang district, Hangzhou, Zhejiang
Province, China

TEST PERIOD

07-Jun-2021~10-Aug-2021

RESULT SUMMARY

As per client's request, with reference to GB/T 33797-2017 Plastics—Determination of the ultimate anaerobic biodegradation under high-solids anaerobic-digestion conditions—Method by analysis of released biogas

- Biodegradation test

See details enclosed

Prepared By

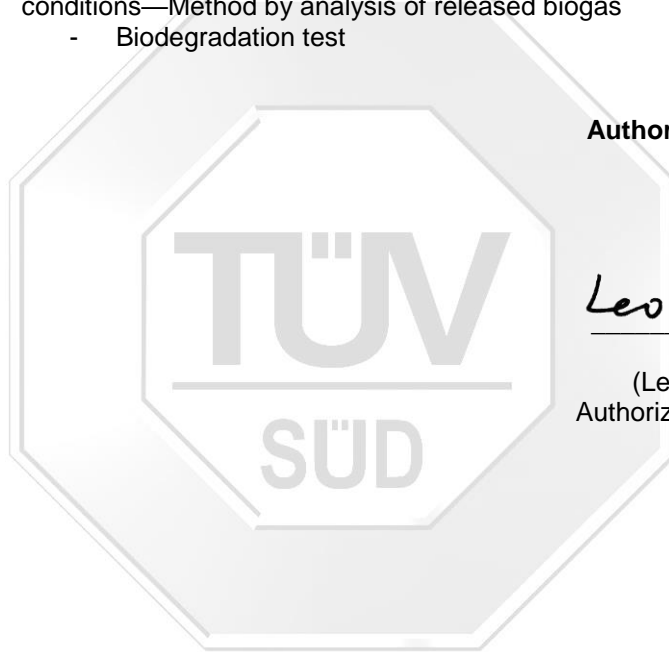
Wei Jun

(Wei Jun)
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Leo Liu

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Authorized Signatory



Note: (1) General Terms & Conditions as mentioned overleaf. (2) The results relate only to the items tested.(3) The test report shall not be reproduced except in full without the written approval of the laboratory.(4) Without the agreement of the laboratory , the client is not authorized to use the test results for unapproved propaganda.




RECEIPT DATE / TEST DATE

07-Jun-2021/ 07-Jun-2021

**THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED
BY/ ON BEHALF OF THE CLIENTS AS**

Sample Name: 易可安 PET 纤维
Sample Specification: 1.5D*38mm
Batch No./Date: 2021.06.01
Manufacturer: /

SAMPLE NO.	DESCRIPTION	PHOTOGRAPH
721664462-1	White sample	

**Summary
Test results**

Material name/ Number	Test Period (days)	Percentage biodegradation (%)	Relative percentage biodegradation (%)
Reference material (TLC grade cellulose)	45	81.9	/
易可安 PET 纤维 /OX210609-006		6.0	7.3
Validity of results	(1) The degree of biodegradation of the reference material is more than 70 % after 15 days: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no (2) The difference between the percentage biodegradation of the reference material in the different vessels is less than 20 % of the mean value at the end of the test: <input checked="" type="checkbox"/> yes / <input type="checkbox"/> no		

Note:

- The relative percentage biodegradation is the rate of percentage biodegradation of test material to reference material.
- The following attached page of test report listed more detailed information.





1. Information of inoculum, test material and reference material
Table 1. Basic information sheet

Item	Inoculum	Reference material/ TLC (thin-layer chromatography) grade cellulose	Test material/ OX210609-006
pH	8.34	/	/
Moisture content (%)	63.8	4.1	0.3
Total dry solid content (%)	36.2	95.9	99.7
Volatile solids content (%)	43.8	100.0	99.7
Total organic carbon content (%)	45.83	45.61	64.19
Volatile fatty acids (g/kg of wet mass)	0.46	/	/
Ionized-ammonia nitrogen (g/kg of wet mass)	0.68	/	/

2. Test system information

(1) Incubation in diffused light in an enclosure that is maintained at 52°C ± 2°C. The volume of the reaction container is 2 liters.

(2) The test method is designed to be an optimized simulation of an intensive anaerobic digestion process and determines the ultimate biodegradability of a test material under high-solids anaerobic digestion conditions. The biogas (methane and carbon dioxide) evolved is continuously monitored or measured at regular intervals in test and blank vessels to determine the cumulative biogas production. The percentage biodegradation is given by the ratio of the amount of biogas evolved from the test material to the maximum theoretical amount of biogas that can be produced from the test material. The maximum theoretical amount of biogas produced is calculated from the measured total organic carbon (TOC). This percentage biodegradation does not include the amount of carbon converted to new cell biomass which is not metabolized in turn to biogas during the course of the test.

3. Test results

Table 2. Percentage biodegradation

Days	Percentage biodegradation, %							
	Reference material				721664462-1			
	1	2	3	Average value	1	2	3	Average value
2	11.1	12.4	11.6	11.7	0.0	0.1	0.1	0.1
3	25.8	27.5	24.8	26.0	0.0	0.1	0.1	0.0
4	39.2	40.4	37.4	39.0	0.0	0.1	0.1	0.1
6	58.2	59.5	57.1	58.3	0.0	0.0	0.0	0.0
8	66.5	68.7	69.9	68.4	0.0	0.0	0.0	0.0
9	67.7	70.6	71.6	70.0	0.0	0.0	0.0	0.0
12	68.4	71.4	72.1	70.6	0.0	0.9	0.2	0.4
15	69.0	71.8	72.7	71.1	0.1	1.6	0.8	0.8
18	70.2	72.6	73.9	72.2	0.2	1.8	1.0	1.0
21	71.3	73.6	75.0	73.3	0.7	2.5	1.5	1.6
29	73.3	77.0	77.7	76.0	2.1	4.3	3.7	3.4
33	74.9	77.9	78.0	77.0	2.6	4.9	4.0	3.9
39	78.1	81.7	79.6	79.8	4.4	5.7	5.3	5.1
45	80.2	83.7	82.0	81.9	5.2	6.6	6.0	6.0

Note: When the calculated result of percentage biodegradation is negative, denoted as "0".



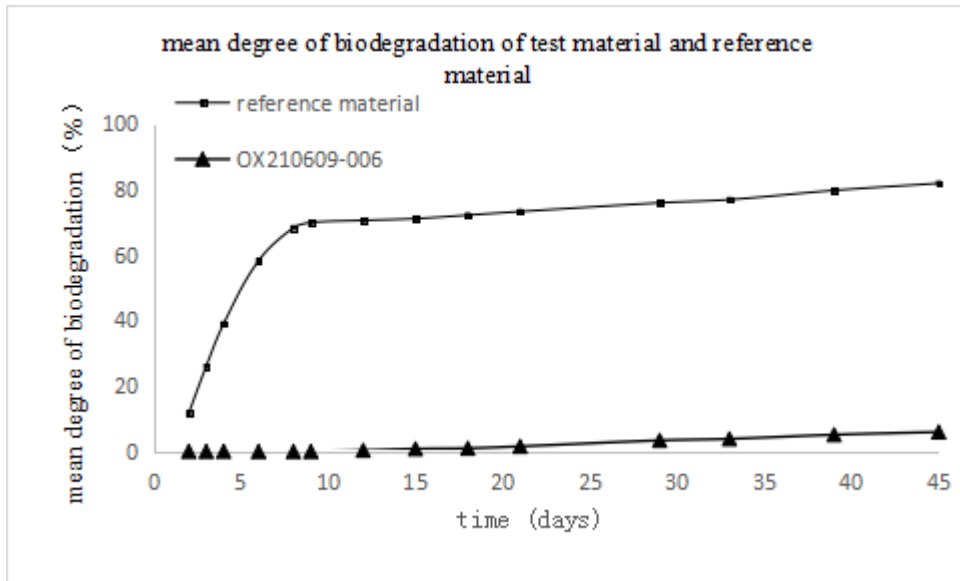


Fig 1. The mean values of percentage biodegradation curve

4. Appendices: Test pictures (Note: The color of the sample may deviate from their pictures due to lighting and the use of different monitors.)

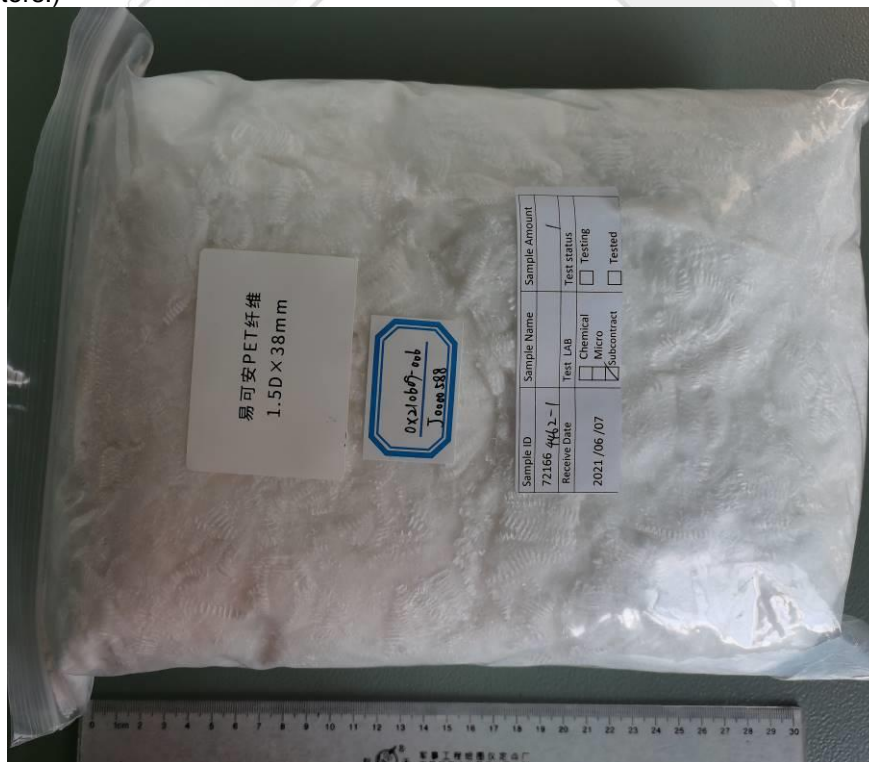


Fig 2. Test item



Fig 3. Test item before tested



Fig 4. The picture of test item before test (Vessel 1)



Fig 5.The mixture of test item and inoculum at the end of the test (45days,vessel 1)

Note:

- 1.* denotes this test was carried out by external laboratory assessed as competent.
- 2.This report is for internal use only such as internal scientific research, education, quality control, product R&D.

-END OF THE TEST REPORT-