

### TEST REPORT

8621.SHJ1.2410.0269 Date: 12.04, 2024 Page: 1/6

Applicant SHANGHAI FINICE COMMODITY CO., LTD

201A, BUILDING 3, NO.2388, CHENHANG ROAD, MINHANG Address

DISTRICT, SHANGHAI, CHINA

Below information submitted by the applicant:

**Product Name** polyvinyl alcohol

Model Model may cover Reference info. Manufacturer info. Supplier info.

Buyer info.

Country of Destination

Country of Origin China

Sample Received 10.28, 2024

**Test Period** 10.28, 2024 - 12.03, 2024

Test Requirement Refer to next pages Test Method Refer to next pages

Test Result Refer to next pages **Test Conclusion** Refer to next pages

Signed for and on behalf of Jordan Wang, General Manager **BU Chemical Compliance** TUV THURINGEN (SHANGHAI) CO., LTD.

Location: Shanghai

### TÜV THÜRINGEN CHINA

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THÜRINGEN CHINA TUV THURINGEN (SHANGHAI) CO., LTD.

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Web.: https://www.tuev-thueringen.de www.tuv-thuringen.com.cn ROOM C6, FLOOR 16<sup>TH</sup> JIANGSU BUILDING, NO.526 LAOSHAN ROAD, SHANGHAI 200122,

P.R.CHINA





## TEST REPORT

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### RESULT SUMMARY

As requested by the client, test items as below:

Test Items Verdict

 Determining aerobic biodegradation of sample under controlled composting conditions in acc. to OCDE/OECD 301B See results

TESTS CARRIED BY:

LAB ID: TTSLCM001; ADD.: ROOM 501, BUILDING 29-1, NO.259, ROAD SHIBEI GAOXIN, CHONGCHUAN, NANTONG, JIANGSU, CHINA

#### SAMPLE DESCRIPTION

Sample description : polyvinyl alcohol

#### **TEST RESULTS**

# Biodegradation test Test method: OECD 301B

#### 1.1. Method introduction

Matters of general interest concerning the assessment of biodegradability are discussed in "General Procedures and Preparations" and it is advisable to read this before proceeding. For this method, the test substance should be non-volatile and its carbon content and, preferably, its purity or relative proportions of major components should be known.

#### 1.2. Method principle

A measured volume of inoculated mineral medium, containing a known concentration of the test substance (10-20 mg DOC or TOC/I) as the nominal sole source of organic carbon is aerated by the passage of carbon dioxide-free air at a controlled rate in the dark or in diffuse light. Degradation is followed over 28 days by determining the carbon dioxide produced. The CO<sub>2</sub> is trapped in barium or sodium hydroxide and is measured by titration of the residual hydroxide or as inorganic carbon.

The amount of carbon dioxide produced from the test substance (corrected for that derived from the blank inoculum) is expressed as a percentage of ThCO<sub>2</sub>. The degree of biodegradation may also be calculated from supplemental DOC analysis made at the beginning and end of incubation.

### 1.3. Test conditions:

- proportion and nature of industrial waste water in sewage: unknown, discharge from waste treatment facility within 1 mile.
- test duration and temperature: 28days or as indicated, 22°C±2°C
- bacterial inoculum ~1E5 cfu/ml

#### 1.4. Test Results

Calculation of the theoretical amount of carbon dioxide (ThCO<sub>2</sub>)

Reaction flasks		Inoculum	· ·	chron	ce item (Th natograph cellulose)		Tested sample			
No.	1	2	3	4	5	6	7	8	9	
Sample of inoculum,	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Amount of reference items or test items	/	/	/	60.25 60.86		60.73	60.15	60.86	61.03	
$M_{TOT}$ , $g$	/	/	/	60.0 60.0		60.0	60.0	60.0	60.0	
TOC, %	20.85				42.54		46.01			
Стот, g/g		0.2085			0.4254			0.4601		
ThCO <sub>2</sub> , g/flask	/	/	/	95.2	95.2	95.2	102.0	102.0	102.0	

Note:  $ThCO_2 = M_{TOT} * C_{TOT} * 44/12$ 



ROOM C6, FLOOR 16TH JIANGSU BUILDING

NO.526 LAOSHAN ROAD, SHANGHAI 200122, P.R.CHINA



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Dise   Percentage in   Percentage   Perce	1.4.1. Cumulative CO₂ production and percentage degradation during the test periods											
Name					Cumulativ	e CO <sub>2</sub> productio						
2024-10-28 0 0 0.04 0.03 0.04 0.04 0.05 0.09 0.09 0.09 0.09 0.09 0.09 0.09	Date		Time	Blank	nk Reference material		Sample			Sample		
0.02				Average, %	(CO <sub>2</sub> )C <sub>P</sub>	Average, %	(CO <sub>2</sub> )M	Average, %	D <sub>P</sub> , %	Average,%	DM, %	Average, %
	2	2024-10-28	0	0.04	0.03	0.04	0.04	0.05	0.0%	0.0%	0.0%	0.0%
1				0.02	0.02	0.04	0.04		0.0%		0.0%	
1.50				0.02	0.05	0.04	0.05		0.0%		0.0%	
1.56	2	2024-10-29	1	1.56	1.71	1.73	7.37	7.43	0.2%	0.2%	5.8%	5.8%
2024-10-90 2 2.33 3.53 3.69 14.61 15.13 1.3% 1.4% 12.2% 12.7% 2.33 4.42 3.69 15.26 2.2% 12.9% 12.9% 12.9% 12.9% 12.33 3.85 3.69 15.26 1.5% 1.5% 1.5% 12.2% 12.9% 12.9% 12.9% 12.9% 12.9% 12.2% 12.2% 12.9% 12.9% 12.9% 12.2% 12.2% 12.9% 12.9% 12.2% 12.2% 12.9% 12.2% 1				1.56	1.76	1.73	7.35		0.2%		5.8%	
2.33				1.56	1.74	1.73	7.48		0.2%		5.9%	
2.33 3.85 3.69 15.64 1.6% 13.2% 2024-10.31 3 2.57 6.71 6.61 26.25 28.35 4.4% 4.3% 23.6% 23.7% 25.77 6.71 6.61 26.25 28.35 4.4% 4.3% 23.6% 23.7% 25.77 6.71 6.61 26.25 28.35 4.4% 4.3% 23.6% 23.7% 23.9% 25.77 6.71 6.61 26.25 28.35 4.4% 4.5% 23.9% 23	2	2024-10-30	2	2.33	3.53	3.69	14.61	15.13	1.3%	1.4%	12.2%	12.7%
2024-10-31 3 2.57 6.71 6.61 26.25 26.35 4.4% 4.3% 23.6% 23.7% 23.7% 2.57 6.52 6.51 26.02 4.6% 23.3% 23.3% 23.3% 25.57 6.51 6.61 26.02 4.6% 23.3% 23.3% 23.8% 23.6% 25.77 6.51 6.61 26.40 4.1% 23.8% 23.8% 23.6% 25.0% 25.77 6.51 6.61 26.40 4.1% 23.8% 23.8% 20.24-11-01 4 3.14 9.06 9.61 40.25 33.37 6.2% 6.6% 36.6% 36.6% 36.6% 36.6% 20.24-11-02 5 3.77 13.69 14.25 52.83 52.71 10.4% 11.0% 48.6% 48.7% 20.24-11-02 5 3.77 14.36 14.25 52.83 52.71 10.4% 11.0% 48.6% 48.7% 48.6% 20.24-11-03 6 4.22 19.42 18.79 50.31 60.56 16.0% 15.3% 55.6% 56.1% 20.24-11-03 6 4.22 19.90 18.79 60.07 16.5% 55.6% 55.6% 20.24-11-04 7 4.71 25.89 26.37 66.47 65.52 23.4% 22.8% 61.5% 55.6% 20.24-11-04 7 4.71 25.89 26.37 66.47 65.52 23.4% 22.8% 61.5% 60.5% 20.24-11-05 8 5.14 31.36 31.01 68.33 68.10 27.6% 22.3% 59.6% 63.6% 20.24-11-06 9 5.35 34.42 31.81 70.44 27.44 22.3% 20.24-11-06 9 5.35 34.42 34.18 73.04 30.6% 67.4% 20.24-11-06 9 5.35 34.42 34.18 73.04 30.6% 67.4% 20.24-11-06 9 5.35 34.39 34.18 73.04 30.6% 67.4% 20.24-11-07 10 5.58 38.59 38.89 77.40 77.19 34.9% 30.3% 67.9% 67.7% 55.89 38.99 38.88 77.40 77.19 34.9% 30.8% 77.5% 71.5% 71.3% 20.24-11-08 11 5.99 40.31 40.61 78.70 33.88 77.48 35.2% 77.10 71.0% 20.24-11-08 11 5.99 40.31 40.61 78.70 33.88 77.48 30.8% 77.49 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.49 36.8% 77.40 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 30.8% 77.5% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 30.8% 77.5% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 34.8% 77.5% 77.5% 55.99 40.91 40.61 78.70 36.8% 77.40 77.19 34.9% 30.8% 77.5% 77.				2.33	4.42	3.69	15.26		2.2%		12.9%	
2.57 6.92 6.61 26.02 4.6% 23.3% 25.57 6.51 6.61 26.45 4.1% 23.3% 20.24-11-01 4 3.14 9.06 9.61 40.25 39.37 6.2% 6.8% 36.9% 36.0				2.33	3.85	3.69	15.64		1.6%		13.2%	
2.57 6.51 6.61 26.45 4.1% 23.8% 2024-11-01 4 3.14 9.06 9.61 40.25 38.37 6.2% 6.8% 36.9% 36.0% 36.0% 3.14 10.35 9.61 40.25 38.37 6.2% 6.8% 36.9% 36.0% 36.8% 31.4 10.15 9.61 38.48 7.4% 35.2% 2024-11-02 5 3.77 13.60 14.25 52.83 52.71 10.4% 11.0% 48.8% 48.7% 48.8% 48.8% 48.7% 48.8% 48.	2	2024-10-31	3	2.57	6.71	6.61	26.25	26.35	4.4%	4.3%	23.6%	23.7%
2024-11-01         4         3.14         9.06         9.61         40.25         39.37         6.2%         6.8%         36.9%         36.0%           3.14         10.35         9.61         40.12         7.6%         36.8%           2024-11-02         5         3.77         13.69         14.25         52.83         52.71         10.4%         11.0%         48.8%         48.7%           2024-11-02         5         3.77         14.36         14.25         52.60         11.1%         49.9%         48.6%           2024-11-03         6         4.22         19.42         18.79         60.31         60.56         16.0%         15.3%         55.8%         56.1%           4.22         19.90         18.79         60.07         16.5%         55.6%         56.3%           2024-11-04         7         4.71         26.89         28.37         66.47         65.52         23.4%         22.8%         61.5%         60.5%           2024-11-04         7         4.71         25.85         26.37         66.47         65.52         23.4%         22.8%         61.5%         60.5%           2024-11-05         8         5.14         31.36         31.01				2.57	6.92	6.61	26.02		4.6%		23.3%	
3.14 10.35 9.61 40.12 7.6% 36.8%  3.14 10.15 9.61 38.48 7.4% 35.2%  2024-11-02 5 3.77 13.69 14.25 52.83 52.71 10.4% 11.0% 48.8% 48.7%  3.77 14.36 14.25 53.60 111.1% 49.6%  3.77 14.81 14.25 52.88 111.6% 48.6%  2024-11-03 6 4.22 19.42 18.79 60.31 60.56 16.0% 15.3% 55.8% 56.1%  4.22 19.90 18.79 60.07 16.5% 55.6%  4.22 18.16 18.79 60.80 14.7% 56.3%  2024-11-04 7 4.71 26.89 26.37 66.67 23.6% 61.7%  4.71 27.14 26.37 66.67 23.6% 61.7%  4.71 27.14 26.37 66.57 22.3% 50.6%  2024-11-05 8 5.14 31.40 31.01 69.33 69.10 27.6% 65.0%  5.14 31.36 31.01 70.44 27.6% 66.50%  5.14 30.61 31.01 68.86 28.8% 63.4%  2024-11-06 9 5.35 34.42 34.18 73.56 73.34 30.6% 30.3% 67.9% 67.7%  5.36 38.99 38.88 77.48 35.2% 71.5% 71.5%  2024-11-07 10 5.58 38.77 38.88 77.48 35.2% 71.5% 71.5%  5.59 40.91 40.61 78.70 38.88 77.97 36.1% 38.4% 74.0% 73.6% 59.99 40.89 40.61 78.70 38.88 77.48 35.2% 71.5% 71.5% 71.5% 5.99 40.89 40.61 78.70 38.88 77.48 35.2% 77.5% 72.4% 5.99 40.89 40.61 78.70 38.70 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.3% 38.8% 73.9% 75.9% 76.0%				2.57	6.51	6.61	26.45		4.1%		23.8%	
3.14 10.15 9.61 38.48 7.4% 35.2%  2024-11-02 5 3.77 13.69 14.25 52.83 52.71 10.4% 11.0% 48.8% 48.7%  3.77 14.36 14.25 53.80 11.1% 49.6%  3.77 14.81 14.25 52.58 11.8% 48.6%  2024-11-03 6 4.22 19.42 18.79 60.31 60.56 16.0% 15.3% 55.8% 56.1%  4.22 19.90 18.79 60.07 16.5% 55.6%  4.22 18.16 18.79 60.80 14.7% 56.52 23.4% 22.8% 61.5% 60.5%  2024-11-04 7 4.71 26.89 26.37 66.47 65.52 23.4% 22.8% 61.5% 60.5%  4.71 27.14 26.37 66.67 23.6% 61.7%  4.71 27.14 26.37 64.57 22.3% 50.6%  2024-11-05 8 5.14 31.40 31.01 69.33 69.10 27.6% 27.2% 63.9% 63.6%  5.14 30.61 31.01 69.33 69.10 27.6% 65.0%  5.14 30.61 31.01 69.33 69.10 27.6% 65.0%  2024-11-06 9 5.35 34.42 34.18 73.56 73.34 30.6% 30.3% 67.9% 67.7%  5.36 33.93 34.18 73.12 30.1% 67.4%  2024-11-07 10 5.58 38.77 38.68 77.40 77.19 34.9% 34.8% 71.5% 71.3%  2024-11-08 11 5.99 40.31 40.61 80.31 79.97 36.1% 36.4% 71.0%  5.99 40.89 40.61 78.70 36.88 62.74 39.4% 39.9% 75.9% 76.0%	2	2024-11-01	4	3.14	9.06	9.61	40.25	39.37	6.2%	6.8%	36.9%	36.0%
2024-11-02   5   3.77   13.69   14.25   52.83   52.71   10.4%   11.0%   48.8%   48.7%				3.14	10.35	9.61	40.12		7.6%		36.8%	
3,77				3.14	10.15	9.61	38.48		7.4%		35.2%	
3.77	2	2024-11-02	5	3.77	13.69	14.25	52.83	52.71	10.4%	11.0%	48.8%	48.7%
2024-11-03       6       4.22       19.42       18.79       60.31       60.56       16.0%       15.3%       55.6%       56.1%         4.22       19.90       18.79       60.07       16.5%       55.6%       55.6%         4.22       18.16       18.79       60.80       14.7%       56.3%       56.3%         2024-11-04       7       4.71       26.89       26.37       66.67       23.6%       61.5%       60.5%         4.71       27.14       26.89       26.37       66.67       23.6%       61.7%       60.5%         2024-11-05       8       5.14       31.40       31.01       69.33       69.10       27.6%       27.2%       63.9%       63.6%         5.14       31.36       31.01       70.44       27.6%       27.2%       63.9%       63.6%         5.14       30.61       31.01       68.86       26.8%       63.4%         2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       30.3%       67.9%       67.7%         5.35       33.93       34.18       73.12       30.1%       67.4%       67.4%         2024-11-07       10       5.				3.77	14.36	14.25	53.60		11.1%		49.6%	
4.22   19.90   18.79   60.07   16.5%   55.6%     4.22   18.16   18.79   60.80   14.7%   56.3%     2024-11-04   7   4.71   26.89   26.37   66.47   65.52   23.4%   22.8%   61.5%   60.5%     4.71   27.14   26.37   66.67   23.6%   61.7%     4.71   25.85   26.37   64.57   22.3%   59.6%     2024-11-05   8   5.14   31.40   31.01   69.33   69.10   27.6%   27.2%   63.9%   63.6%     5.14   31.36   31.01   70.44   27.6%   65.0%     5.14   30.61   31.01   68.86   26.8%   63.4%     2024-11-06   9   5.35   34.42   34.18   73.56   73.34   30.6%   30.3%   67.9%   67.7%     5.35   33.93   34.18   73.04   30.6%   30.6%   67.4%     2024-11-07   10   5.58   38.77   38.68   77.40   77.19   34.9%   34.8%   71.5%   71.3%     2024-11-08   11   5.99   40.31   40.61   80.31   79.97   36.1%   36.4%   74.0%   73.6%     5.99   40.89   40.61   78.70   36.8%   73.3%   39.9%   75.9%   76.0%     2024-11-09   12   6.34   43.76   44.24   82.58   82.74   39.4%   39.9%   75.9%   76.0%				3.77	14.81	14.25	52.58		11.6%		48.6%	
4.22       18.16       18.79       60.80       14.7%       56.3%         2024-11-04       7       4.71       26.89       26.37       66.47       65.52       23.4%       22.8%       61.5%       60.5%         4.71       27.14       26.37       66.67       23.6%       61.7%       61.7%         2024-11-05       8       5.14       31.40       31.01       69.33       69.10       27.6%       27.2%       63.9%       63.6%         5.14       31.36       31.01       70.44       27.6%       65.0%       65.0%         5.14       30.61       31.01       68.86       26.8%       63.4%         2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       37.9%       67.7%         5.35       33.93       34.18       73.04       30.6%       30.3%       67.9%       67.7%         2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%         5.58       38.59       38.68       76.98       34.7%       71.0%         2024-11-08       11       5.99       40.81       78.70       36	2	2024-11-03	6	4.22	19.42	18.79	60.31	60.56	16.0%	15.3%	55.8%	56.1%
2024-11-04         7         4.71         26.89         26.37         66.47         65.52         23.4%         22.8%         61.5%         60.5%           4.71         27.14         26.37         66.67         23.6%         61.7%           2024-11-05         8         5.14         31.40         31.01         69.33         69.10         27.6%         27.2%         63.9%         63.6%           5.14         31.36         31.01         70.44         27.6%         65.0%         65.0%           5.14         30.61         31.01         68.86         26.8%         63.4%           2024-11-06         9         5.35         34.42         34.18         73.56         73.34         30.6%         30.3%         67.9%         67.7%           5.35         33.93         34.18         73.04         30.6%         67.4%         67.4%           2024-11-07         10         5.58         38.77         38.68         77.40         77.19         34.9%         34.8%         71.5%           5.58         38.59         38.68         76.98         34.7%         71.0%           2024-11-08         11         5.99         40.91         40.61         78.70				4.22	19.90	18.79	60.07		16.5%		55.6%	
4.71       27.14       26.37       66.67       23.6%       61.7%         4.71       25.85       26.37       64.57       22.3%       59.6%         2024-11-05       8       5.14       31.40       31.01       69.33       69.10       27.6%       27.2%       63.9%       63.6%         5.14       31.36       31.01       70.44       27.6%       65.0%       65.0%         5.14       30.61       31.01       68.86       26.8%       63.4%         2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       30.3%       67.9%       67.7%         5.35       33.93       34.18       73.04       30.6%       67.4%       67.4%         2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%       71.3%         5.58       38.59       38.68       76.98       34.7%       71.0%       73.6%         2024-11-08       11       5.99       40.31       40.61       78.70       36.7%       72.4%         5.99       40.91       40.61       79.63       36.8%       73.3%       75.9%       76.				4.22	18.16	18.79	60.80		14.7%		56.3%	
4,71       25.85       26.37       64.57       22,3%       59.6%         2024-11-05       8       5.14       31.40       31.01       69.33       69.10       27.6%       27.2%       63.9%       63.6%         5.14       31.36       31.01       70.44       27.6%       65.0%       65.0%         5.14       30.61       31.01       68.86       26.8%       63.4%         2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       30.3%       67.9%       67.7%         5.35       34.39       34.18       73.04       30.6%       67.4%       67.4%         2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%         5.58       38.99       38.68       77.48       35.2%       71.5%         5.58       38.59       38.68       76.98       34.7%       71.0%         2024-11-08       11       5.99       40.31       40.61       80.31       79.97       36.1%       36.4%       74.0%       73.6%         5.99       40.91       40.61       79.63       36.8%       73.3%       75.	2	2024-11-04	7	4.71	26.89	26.37	66.47	65.52	23.4%	22.8%	61.5%	60.5%
2024-11-05         8         5.14         31.40         31.01         69.33         69.10         27.6%         27.2%         63.9%         63.6%           5.14         31.36         31.01         70.44         27.6%         65.0%           5.14         30.61         31.01         68.86         26.8%         63.4%           2024-11-06         9         5.35         34.42         34.18         73.56         73.34         30.6%         30.3%         67.9%         67.7%           5.35         34.39         34.18         73.04         30.6%         67.4%         67.4%           2024-11-07         10         5.58         38.77         38.68         77.40         77.19         34.9%         34.8%         71.5%         71.3%           5.58         38.99         38.68         77.48         35.2%         71.5%         71.5%           5.58         38.59         38.68         76.98         34.7%         71.0%         73.6%           2024-11-08         11         5.99         40.31         40.61         80.31         79.97         36.1%         36.4%         74.0%         73.6%           5.99         40.91         40.61         79.63				4.71	27.14	26.37	66.67		23.6%		61.7%	
5.14       31.36       31.01       70.44       27.6%       65.0%         5.14       30.61       31.01       68.86       26.8%       63.4%         2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       30.3%       67.9%       67.7%         5.35       34.39       34.18       73.04       30.6%       67.4%         2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%       71.3%         5.58       38.99       38.68       77.48       35.2%       71.5%       71.0%         2024-11-08       11       5.99       40.31       40.61       80.31       79.97       36.1%       36.4%       74.0%       73.6%         5.99       40.89       40.61       78.70       36.7%       72.4%       72.4%         5.99       40.91       40.61       79.63       36.8%       73.3%       75.9%       76.0%				4.71	25.85	26.37	64.57		22.3%		59.6%	
5.14       30.61       31.01       68.86       26.8%       63.4%         2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       30.3%       67.9%       67.7%         5.35       34.39       34.18       73.04       30.6%       67.4%         2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%       71.3%         5.58       38.99       38.68       77.48       35.2%       71.5%       71.5%         5.58       38.59       38.68       76.98       34.7%       71.0%         2024-11-08       11       5.99       40.31       40.61       80.31       79.97       36.1%       36.4%       74.0%       73.6%         5.99       40.89       40.61       78.70       36.7%       72.4%         5.99       40.91       40.61       79.63       36.8%       73.3%         2024-11-09       12       6.34       43.76       44.24       82.58       82.74       39.4%       39.9%       75.9%       76.0%	2	2024-11-05	8	5.14	31.40	31.01	69.33	69.10	27.6%	27.2%	63.9%	63.6%
2024-11-06       9       5.35       34.42       34.18       73.56       73.34       30.6%       30.3%       67.9%       67.7%         5.35       34.39       34.18       73.04       30.6%       67.4%         2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%       71.3%         5.58       38.99       38.68       77.48       35.2%       71.5%         5.58       38.59       38.68       76.98       34.7%       71.0%         2024-11-08       11       5.99       40.31       40.61       80.31       79.97       36.1%       36.4%       74.0%       73.6%         5.99       40.89       40.61       78.70       36.8%       73.3%         2024-11-09       12       6.34       43.76       44.24       82.58       82.74       39.4%       39.9%       75.9%       76.0%				5.14	31.36	31.01	70.44		27.6%		65.0%	
5.35     34.39     34.18     73.04     30.6%     67.4%       5.35     33.93     34.18     73.12     30.1%     67.4%       2024-11-07     10     5.58     38.77     38.68     77.40     77.19     34.9%     34.8%     71.5%     71.3%       5.58     38.99     38.68     77.48     35.2%     71.5%       5.58     38.59     38.68     76.98     34.7%     71.0%       2024-11-08     11     5.99     40.31     40.61     80.31     79.97     36.1%     36.4%     74.0%     73.6%       5.99     40.89     40.61     78.70     36.7%     72.4%       5.99     40.91     40.61     79.63     36.8%     73.3%       2024-11-09     12     6.34     43.76     44.24     82.58     82.74     39.4%     39.9%     75.9%     76.0%				5.14	30.61	31.01	68.86		26.8%		63.4%	
5.35     33.93     34.18     73.12     30.1%     67.4%       2024-11-07     10     5.58     38.77     38.68     77.40     77.19     34.9%     34.8%     71.5%     71.3%       5.58     38.99     38.68     77.48     35.2%     71.5%       5.58     38.59     38.68     76.98     34.7%     71.0%       2024-11-08     11     5.99     40.31     40.61     80.31     79.97     36.1%     36.4%     74.0%     73.6%       5.99     40.89     40.61     78.70     36.7%     72.4%       5.99     40.91     40.61     79.63     36.8%     73.3%       2024-11-09     12     6.34     43.76     44.24     82.58     82.74     39.4%     39.9%     75.9%     76.0%	2	2024-11-06	9	5.35	34.42	34.18	73.56	73.34	30.6%	30.3%	67.9%	67.7%
2024-11-07       10       5.58       38.77       38.68       77.40       77.19       34.9%       34.8%       71.5%       71.3%         5.58       38.99       38.68       77.48       35.2%       71.5%         5.58       38.59       38.68       76.98       34.7%       71.0%         2024-11-08       11       5.99       40.31       40.61       80.31       79.97       36.1%       36.4%       74.0%       73.6%         5.99       40.89       40.61       78.70       36.7%       72.4%         5.99       40.91       40.61       79.63       36.8%       73.3%         2024-11-09       12       6.34       43.76       44.24       82.58       82.74       39.4%       39.9%       75.9%       76.0%				5.35	34.39	34.18	73.04		30.6%		67.4%	
5.58       38.99       38.68       77.48       35.2%       71.5%         5.58       38.59       38.68       76.98       34.7%       71.0%         2024-11-08       11       5.99       40.31       40.61       80.31       79.97       36.1%       36.4%       74.0%       73.6%         5.99       40.89       40.61       78.70       36.7%       72.4%         5.99       40.91       40.61       79.63       36.8%       73.3%         2024-11-09       12       6.34       43.76       44.24       82.58       82.74       39.4%       39.9%       75.9%       76.0%				5.35	33.93	34.18	73.12		30.1%		67.4%	
5.58     38.59     38.68     76.98     34.7%     71.0%       2024-11-08     11     5.99     40.31     40.61     80.31     79.97     36.1%     36.4%     74.0%     73.6%       5.99     40.89     40.61     78.70     36.7%     72.4%       5.99     40.91     40.61     79.63     36.8%     73.3%       2024-11-09     12     6.34     43.76     44.24     82.58     82.74     39.4%     39.9%     75.9%     76.0%	2	2024-11-07	10	5.58	38.77	38.68	77.40	77.19	34.9%	34.8%	71.5%	71.3%
2024-11-08     11     5.99     40.31     40.61     80.31     79.97     36.1%     36.4%     74.0%     73.6%       5.99     40.89     40.61     78.70     36.7%     72.4%       5.99     40.91     40.61     79.63     36.8%     73.3%       2024-11-09     12     6.34     43.76     44.24     82.58     82.74     39.4%     39.9%     75.9%     76.0%				5.58	38.99	38.68	77.48		35.2%		71.5%	
5.99     40.89     40.61     78.70     36.7%     72.4%       5.99     40.91     40.61     79.63     36.8%     73.3%       2024-11-09     12     6.34     43.76     44.24     82.58     82.74     39.4%     39.9%     75.9%     76.0%				5.58	38.59	38.68	76.98		34.7%		71.0%	
5.99     40.91     40.61     79.63     36.8%     73.3%       2024-11-09     12     6.34     43.76     44.24     82.58     82.74     39.4%     39.9%     75.9%     76.0%	2	2024-11-08	11	5.99	40.31	40.61	80.31	79.97	36.1%	36.4%	74.0%	73.6%
2024-11-09 12 6.34 43.76 44.24 82.58 82.74 39.4% 39.9% 75.9% 76.0%				5.99	40.89	40.61	78.70		36.7%		72.4%	
				5.99	40.91	40.61	79.63		36.8%		73.3%	
6.34 44.58 44.24 82.05 40.3% 75.3%	2	2024-11-09	12	6.34	43.76	44.24	82.58	82.74	39.4%	39.9%	75.9%	76.0%
				6.34	44.58	44.24	82.05		40.3%		75.3%	
6.34 44.72 44.24 82.89 40.4% 76.2%				6.34	44.72	44.24	82.89		40.4%		76.2%	
2024-11-10 13 6.62 45.82 45.47 85.36 85.58 41.3% 40.9% 78.3% 78.6%	2	2024-11-10	13	6.62	45.82	45.47	85.36	85.58	41.3%	40.9%	78.3%	78.6%





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			Cumulativ	n (g/flask)	Percentage biodegradation (%)					
Date	Date Time Blank Reference material Sample		ample	Reference material Sample						
		Average, %	(CO <sub>2</sub> )C <sub>P</sub>	Average, %	(CO <sub>2</sub> )M	Average, %	D <sub>P</sub> , %	Average,%	DM, %	Average, %
		6.62	45.40	45.47	85.84		40.8%		78.8%	
		6.62	45.11	45.47	85.79		40.5%		78.8%	
2024-11-11	14	6.84	47.49	47.74	88.13	87.64	42.8%	43.1%	80.9%	80.4%
		6.84	47.17	47.74	88.09		42.5%		80.8%	
		6.84	47.99	47.74	87.14		43.3%		79.9%	
2024-11-12	15	7.07	49.74	49.53	89.39	89.69	44.9%	44.7%	81.9%	82.2%
		7.07	49.80	49.53	90.03		45.0%		82.5%	
		7.07	49.31	49.53	89.99		44.5%		82.5%	
2024-11-13	16	7.29	50.42	50.61	92.41	92.26	45.4%	45.6%	84.7%	84.6%
		7.29	50.97	50.61	92.19		46.0%		84.5%	
		7.29	50.80	50.61	92.11		45.8%		84.4%	
2024-11-14	17	7.45	51.39	51.38	93.52	93.44	46.3%	46.2%	85.6%	85.6%
		7.45	51.71	51.38	93.70		46.6%		85.8%	
		7.45	51.37	51.38	93.36		46.2%		85.5%	
2024-11-15	18	7.51	53.28	53.32	94.28	94.15	48.2%	48.2%	86.3%	86.2%
		7.51	53.12	53.32	94.56		48.0%		86.6%	
		7.51	53.36	53.32	94.02		48.3%		86.1%	
2024-11-16	19	7.62	53.55	53.55	95.21	95.07	48.4%	48.3%	87.2%	87.0%
		7.62	53.83	53.55	95.00		48.6%		87.0%	
		7.62	53.54	53.55	94.92		48.3%		86.9%	
2024-11-17	20	7.73	54.27	54.24	96.17	96.10	49.0%	49.0%	88.0%	87.9%
		7.73	54.27	54.24	96.16		49.0%		88.0%	
		7.73	54.20	54.24	96.02		48.9%		87.9%	
2024-11-18	21	7.84	54.94	54.79	96.28	96.25	49.6%	49.4%	88.0%	88.0%
		7.84	54.73	54.79	96.97		49.4%		88.7%	
		7.84	54.63	54.79	96.22		49.3%		87.9%	
2024-11-19	22	7.97	55.35	55.33	97.45	97.35	49.9%	49.9%	89.0%	88.9%
		7.97	55.47	55.33	97.42		50.0%		89.0%	
		7.97	55.30	55.33	97.24		49.8%		88.8%	
2024-11-20	23	8.04	55.88	55.79	98.11	97.96	50.4%	50.3%	89.6%	89.5%
		8.04	55.80	55.79	97.61		50.3%		89.1%	
		8.04	55.69	55.79	97.81		50.2%		89.3%	
2024-11-21	24	8.12	56.09	56.14	98.25	98.43	50.5%	50.5%	89.7%	89.9%
		8.12	56.08	56.14	98.37		50.5%		89.8%	
		8.12	56.19	56.14	98.60		50.6%		90.0%	
2024-11-22	25	8.18	56.28	56.25	98.66	98.63	50.6%	50.6%	90.0%	90.0%
		8.18	56.26	56.25	98.64		50.6%		90.0%	
		8.18	56.22	56.25	98.59		50.6%		90.0%	
2024-11-23	26	8.22	56.31	56.35	98.74	98.79	50.6%	50.7%	90.1%	90.1%
		8.22	56.31	56.35	98.90		50.6%		90.2%	
		8.22	56.39	56.35	98.83		50.7%		90.2%	



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ROOM C6, FLOOR 16<sup>TH</sup> JIANGSU BUILDING,

NO.526 LAOSHAN ROAD, SHANGHAI 200122, P.R.CHINA



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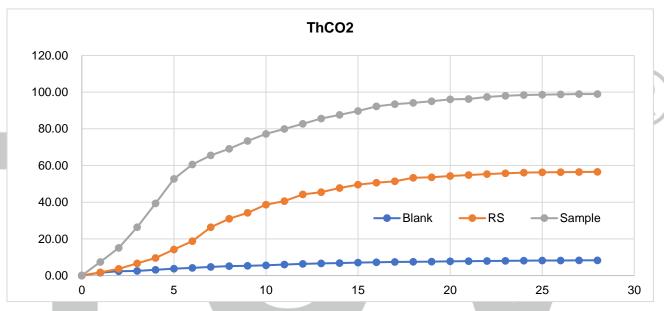
Date: 12.04, 2024

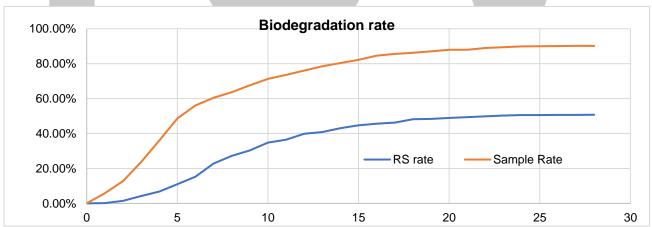
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			Cumulative	n (g/flask)	Percentage biodegradation (%)					
Date	Time	Blank	Referen	Reference material Sample		Reference material	Sample			
		Average, %	(CO <sub>2</sub> )C <sub>P</sub>	Average, %	(CO <sub>2</sub> )M	Average, %	D <sub>P</sub> , %	Average,%	DM, %	Average, %
2024-11-24	27	8.27	56.45	56.43	98.90	98.94	50.7%	50.7%	90.2%	90.2%
		8.27	56.46	56.43	98.90		50.7%		90.2%	
		8.27	56.41	56.43	98.97		50.7%		90.2%	
2024-11-25	28	8.33	56.54	56.54	98.81	98.94	50.8%	50.8%	90.0%	90.2%
		8.33	56.56	56.54	98.90		50.8%		90.1%	
		8.33	56.54	56.54	99.07		50.8%		90.3%	

#### 1.4.2. The curves of cumulative carbon dioxide production against time for the reference item and sample





#### 1.4.3. Result summary:

Biodegradability rate: 7days, about 61% 14days, about 80% 28days, about 90%



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#### **Guidelines** 1.5.

The OECD 301B method is designed to provide the screening of chemicals for ready biodegradability in an aerobic aqueous medium. Samples are required to achieve a threshold of 60% degradation based on the maximum available carbon from a given sample formulation. Total carbon is determined analytically for each sample and used as the reference for the determination of the percentage of carbon dioxide (% ThCO<sub>2</sub>) produced by microbiological degradation.

\*\*\*\*\*\*\* END OF REPORT \*\*\*\*\*\*\*



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