



TEST REPORT / REPORT OF ANALYSIS

Record No

2023/CAA/7.8/01- 004585R

Document No

QR/IIPL/CAA/7.8/01-03

FINAL REPORT

**BIODEGRADABILITY TEST AS PER OECD 301 B
FOR SLIME BAFF AND GELLI BAFF
SUBMITTED BY ZIMPLI KIDS LTD.**

ENVIRONMENTAL DIVISION LABORATORY, MUMBAI

INTERTEK INDIA PRIVATE LIMITED


IIPL/17025/ENV/QF/7.8/01-03

Issue No.: 02

Issue Date.: 22.12.2022

Amend No.: 00

Amend Date.: 00.00.0000

	<u>TEST REPORT / REPORT OF ANALYSIS</u>	Record No	2023/CAA/7.8/01- 004585R
		Document No	QR/IIPL/CAA/7.8/01-03

Client : Zimpli Kids Ltd.

Sample registration date: 20/12/2018

Analysis starting date: 24/12/2018 (pre-conditioning) **Analysis completed on:** 12/02/2019

Name of product: Slime Baff and Gelli Baff

Quantity received and packing: 1 packet *2

Sample details: Slime Baff and Gelli Baff

Test Required: Biodegradability test as per OECD 301 B

Sampling done by: Sample not drawn by Intertek

Report No: MUM/004585R/2018; Revised report Date: 20/05/2023

Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. **Intertek** disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms>/or can be made available on request

IIPL/17025/ENV/QF/7.8/01-03	Issue No.: 02	Amend No.: 00
	Issue Date.: 22.12.2022	Amend Date.: 00.00.0000



TEST REPORT / REPORT OF ANALYSIS

Record No 2023/CAA/7.8/01- 004585R

Document No QR/IIPL/CAA/7.8/01-03

LABORATORY

Testing as presented in this report was conducted by Environmental division of Intertek India Private Limited. The testing facility is located at F wing, 2nd Floor, Chandivali Saki vihar Road, Andheri (East), Mumbai – 400 072, India.

SAMPLE RECEIPT

The sample was received on 20th December, 2018 at the Intertek testing facility. The package received through courier had one packet each of Slime Baff and Gelli Baff. Samples were at ambient temperature in good condition with no evidence of damage or contamination.


SAMPLE DESCRIPTION:



Figure 1: Slime Baff and Gelli Baff

Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. Intertek disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms> or can be made available on request

IIPL/17025/ENV/QF/7.8/01-03	Issue No.: 02	Amend No.: 00
	Issue Date.: 22.12.2022	Amend Date.: 00.00.0000

	TEST REPORT / REPORT OF ANALYSIS	Record No	2023/CAA/7.8/01- 004585R
		Document No	QR/IIPL/CAA/7.8/01-03

PROJECT DESCRIPTION:

Slime baff And Gelli baff sample was submitted by Zimpli Kids Ltd. for studying the Readily biodegradability as per OECD 301 B for 10 days' window study. A measured volume of inoculated mineral medium, containing a known concentration of the test substance (10-20 mg DOC or TOC/l) 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 CO₂ 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 ThCO₂. The degree of biodegradation may also be calculated from supplemental DOC analysis made at the beginning and end of incubation. OECD 301B biodegradability testing monitors the degree of activity of microorganisms exposed to a material that is being tested for a biodegradable status. In the test, if the microorganisms recognize the material as a food source, then an increase in biological activity is observed through data collection specifically designed to assess biological conversion of organic carbon to inorganic carbon. If the material is not a recognizable food source or is toxic or inhibitory, then there is no measurable increase in biological activity or, in some cases, there is a marked decrease in activity relative to a biodegradable control.

INOCULUM COLLECTION AND CONDITIONING

The inoculum was derived from Sewage effluent source. Following collection, the inoculum was immediately transported to the testing facility and was aerated with CO₂ free air. Pre-conditioning was done by aerating the effluent for 5-7 days at the test temperature.

TEST SETUP

The following test vessels were prepared and analyzed for the study: Blank Control, Test Products, and Positive Control. Reactors were setup in triplicates for statistical validation of results.

The Test Products and Positive Control are analyzed for total organic carbon prior to study initiation to determine appropriate dilutions that yield a concentration of 10-20 mg/L per method requirements.

Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. **Intertek** disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms/> or can be made available on request

IIPL/17025/ENV/QF/7.8/01-03	Issue No.: 02	Amend No.: 00
	Issue Date.: 22.12.2022	Amend Date.: 00.00.0000

**TEST REPORT / REPORT OF ANALYSIS**

Record No

2023/CAA/7.8/01- 004585R

Document No

QR/IIPL/CAA/7.8/01-03

Treatments included test flasks containing test substance and inoculum (test suspension); only inoculum (inoculum blank); a standard reference material, known to be biodegradable, was selected as a reference or positive control.

TEST RESULTS:

Based on the testing conducted in accordance with the specified method, the test sample **Slime baff** And **Gelli baff** achieved 71.31% and 66.86% by day 28 respectively.

Table 1: Represent % biodegradation of Positive control & the test sample Slime baff And Gelli baff

Time (Day)	% Biodegradation		
	Positive control	Slime baff	Gelli baff
0	0.00	0.00	0.00
2	9.81	2.07	1.20
5	16.89	6.20	4.61
7	25.07	9.82	8.30
8	35.42	10.34	9.22
9	40.33	13.95	11.07
12	59.95	25.84	20.29
14	62.67	37.72	31.36
15	64.31	44.44	41.96
16	68.12	56.33	59.02
18	71.93	65.11	61.79
21	75.20	68.73	62.71
24	81.20	69.76	63.63
28	82.83	71.31	66.86

Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. **Intertek** disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms>/or can be made available on request

IIPL/17025/ENV/QF/7.8/01-03

Issue No.: 02

Amend No.: 00

Issue Date.: 22.12.2022

Amend Date.: 00.00.0000



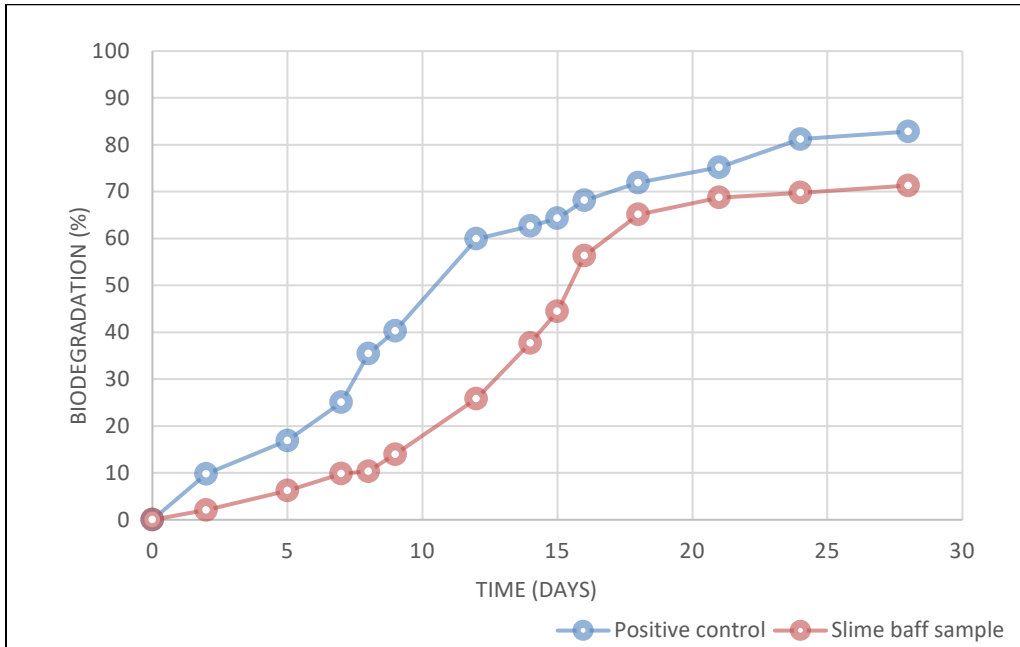
TEST REPORT / REPORT OF ANALYSIS

Record No

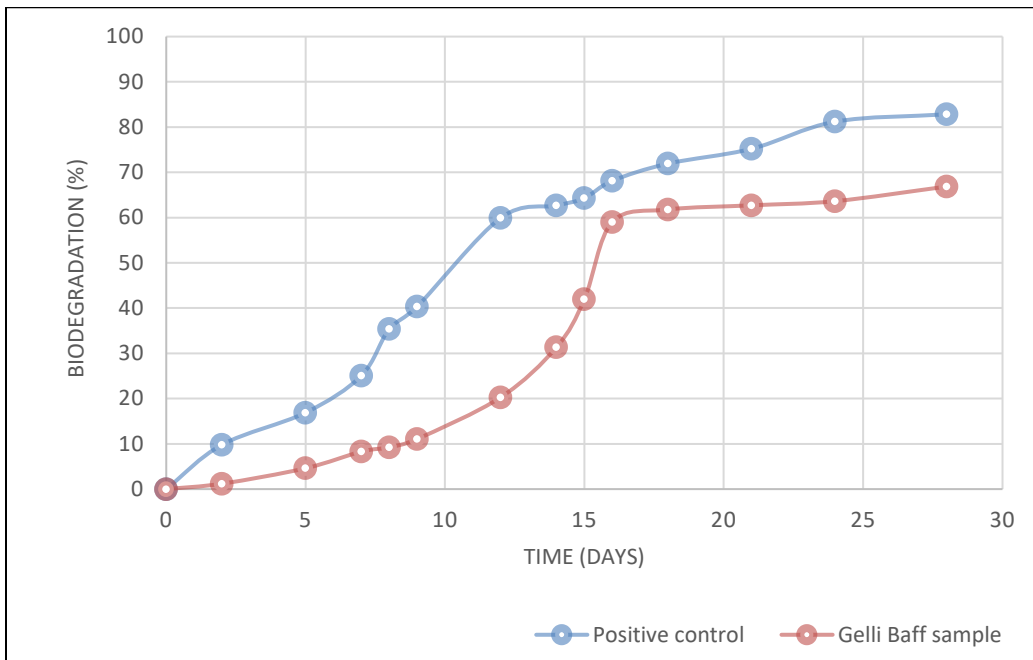
2023/CAA/7.8/01- 004585R

Document No

QR/IIPL/CAA/7.8/01-03




Graph 1: Graphical representation of biodegradability tests OECD 301 B on Slime Baff

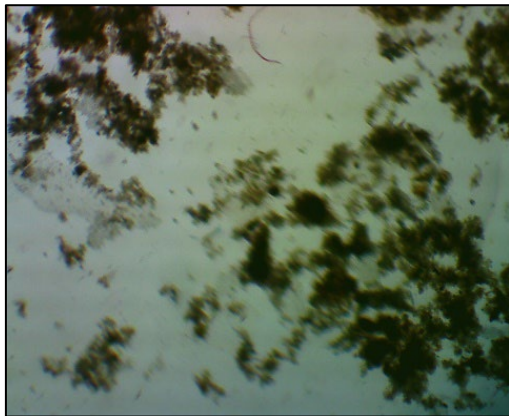


Graph 2: Graphical representation of biodegradability tests OECD 301 B on Gelli Baff

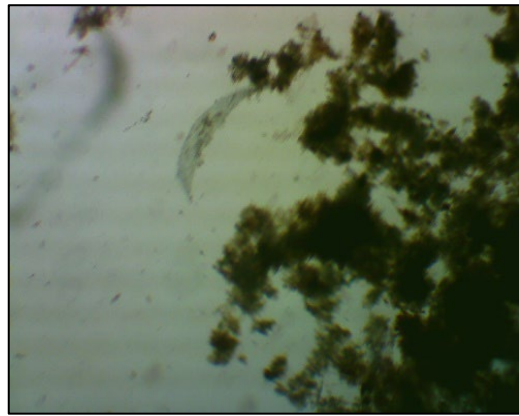
Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. **Intertek** disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms>/or can be made available on request

	TEST REPORT / REPORT OF ANALYSIS	Record No	2023/CAA/7.8/01- 004585R
		Document No	QR/IIPL/CAA/7.8/01-03

The Positive control sample achieved 40.33 % biodegradation by day 9 and a plateau of 81.2 % biodegradation on day 24 of the test. The Test product Slime Baff and Gelli Baff demonstrated biodegradability achieving a plateau of 71.31% and 66.86% by day 28 respectively. For Slime baff and gelli baff, the 10-day window was observed somewhere between the 8th day to 18th day where the biodegradation rate was 65.11% and 61.79% at the end of 18th day. Test sample Slime Baff and Gelli Baff demonstrated ready biodegradability according to the conditions set forth in OECD 301B requirements of achieving the 60% conversion to CO₂ within the required timeframe.



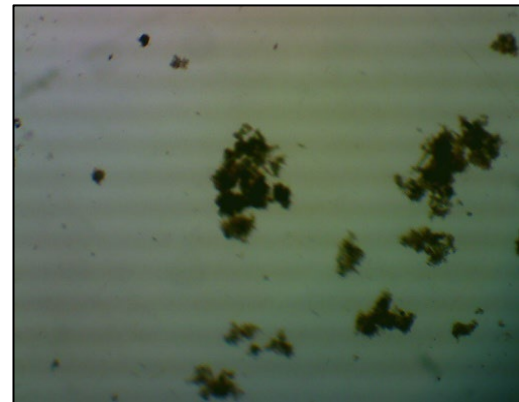
(A)



(B)



(C)




(D)

Figure 2: Microscopic examination of the Slime Baff (A-B) and Gelli Baff (C-D) after incubation.

Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. **Intertek** disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms/> or can be made available on request

IIPL/17025/ENV/QF/7.8/01-03	Issue No.: 02	Amend No.: 00
	Issue Date.: 22.12.2022	Amend Date.: 00.00.0000

	<u>TEST REPORT / REPORT OF ANALYSIS</u>	Record No	2023/CAA/7.8/01- 004585R
		Document No	QR/IIPL/CAA/7.8/01-03

VALIDITY

All validity parameters and values are presented in the following table:

Table 2: Validity

Parameter	Criterion	Found	Assessment
Difference within replicates	< 20%	0.2%	valid
Degradation of positive control > 60%	<14 days	<14 days	valid

CONCLUSION

Test samples **Slime baff And Gelli baff** is readily biodegradable in accordance to the conditions set forth in OECD 301B requirements of achieving the 60% conversion to CO₂ within the required timeframe.

----- **End of Report** -----

Authorized Signatory

Jayashree Acharya
Assistant Manager- Environment laboratory

Note : The results reported relate to the sample tested only The Test Certificate shall not be partially reproduced without the written permission of INTERTEK. The sample(s) has been not drawn/sampled by INTERTEK LAB. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and / or shipment and only relate to the sample(s) as received and tested. This report was prepared solely for the use of the client named in this report. **Intertek** disclaims any and all liability for damage or injury which results in the use of the information contained herein and accepts no responsibility for any loss, damage or liability suffered by a third party as a result of any reliance upon or use of this report. All jobs are performed as per Intertek terms & Conditions available at <http://www.intertek.com/terms/> or can be made available on request

IIPL/17025/ENV/QF/7.8/01-03	Issue No.: 02	Amend No.: 00
	Issue Date.: 22.12.2022	Amend Date.: 00.00.0000