

Test report n°: **18LA12214** of **30/11/2018**

Dear
Parx Plastics Europe BV
Westblaak 189
3012KJ Rotterdam ()

Sample Information

Description: **TPU0008/M17083101/10130/TPE/ <bacteria> - Samples with technology - Porphyromonas gingivalis - 8 h**

Test subject: **Polymers**

Registration date: **07/07/2018** Registration hour: **12.20**

Date of arrival: **07/08/2018** Hour of arrival: **12.20**

Date analysis commenced: **25/09/2018** Date analysis completed: **25/10/2018**

Sampling data

Sampling by: **Customer**

Transport: **Customer**

The analytical results are exclusively referred to the sample.

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Laboratory management system certified UNI EN ISO 9001: 2015 by CSQA with the No. 14270. Recommended by AIC for the analysis of quantification of gluten in food matrices. Registered laboratory for the analysis of food contact materials intended for export to Japan.

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Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - R=(Ut-Uo)-(At-Uo) ISO 22196:2011		NOT EXECUTABLE	0,6
18LA12214/01 TPU0008/M17083101/10130/TPE/ <bacteria> -Samples with technology - Bacteroides Forsythus (Tannerella forsythia) - 8 h			
Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - R=(Ut-Uo)-(At-Uo) ISO 22196:2011		< 0,6	0,6
Size of test specimens (H x L)	mm	50x50	
Thickness of test specimens	mm	2,0	
Type of polymer used for the cover film		Polipropilene	
Size of the cover film (H x L)	mm	40x40	
Thickness of the cover film	mm	0,10	
Type of Gram-negative strain		Tannerella forsythia	
Volume of test inoculum	ml	0,4	
Number of viable bacteria in the test inoculum	n°	240000	
Uo - N° of viable bacteria recovered from the untreated test specimens after inoculation	log	4,2	0,4
Ut - N° of viable bacteria recovered from the untreated test specimens after 24 h	log	4,8	0,4
At - Count bacteria recovered from the treated samples 24 hours post inoculation	log	4,8	0,4
18LA12214/02 TPU0008/M17083101/10130/TPE/ <bacteria> - Samples with technology - Aggregatibacter anctinomycetemcomitans - 8 h			
Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - R=(Ut-Uo)-(At-Uo) ISO 22196:2011		NOT EXECUTABLE	0,6
18LA12214/03 TPU0008/M17083101/10130/TPE/ <bacteria> - Samples with technology - Prevotella intermedia - 8 h			
Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - R=(Ut-Uo)-(At-Uo) ISO 22196:2011		NOT EXECUTABLE	0,6

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18LA12214/04 TPU0008/M17083101/10130/TPE/ <bacteria> - Samples with technology - Fusobacterium nucleatum - 8 h			
Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - $R=(U_t-U_o)-(A_t-U_o)$ ISO 22196:2011		2,0 Reduction of 99.000%	0,6
Size of test specimens (H x L)	mm	50x50	
Thickness of test specimens	mm	2,0	
Type of polymer used for the cover film		Polipropilene	
Size of the cover film (H x L)	mm	40x40	
Thickness of the cover film	mm	0,10	
Type of Gram-negative strain		Fusobacterium nucleatum - ATCC 25586	
Volume of test inoculum	ml	0,4	
Number of viable bacteria in the test inoculum	n°	110000	
U _o - N° of viable bacteria recovered from the untreated test specimens after inoculation	log	3,8	0,4
U _t - N° of viable bacteria recovered from the untreated test specimens after 24 h	log	2,7	0,4
A _t - Count bacteria recovered from the treated samples 24 hours post inoculation	log	0,8	0,4

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18LA12214/05 TPU0008/M17083101/10130/TPE/ <bacteria> - Samples with technology - Eikenella corrodens - 8 h			
Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - $R=(U_t-U_o)-(A_t-U_o)$ ISO 22196:2011		1,2 Reduction of 93.690	0,6
Size of test specimens (H x L)	mm	50x50	
Thickness of test specimens	mm	2,0	
Type of polymer used for the cover film		Polipropilene	
Size of the cover film (H x L)	mm	40x40	
Thickness of the cover film	mm	0,10	
Type of Gram-negative strain		Eikenella corrodens - ATCC BAA-1152	
Volume of test inoculum	ml	0,4	
Number of viable bacteria in the test inoculum	n°	160000	
U _o - N° of viable bacteria recovered from the untreated test specimens after inoculation	log	4,0	0,4
U _t - N° of viable bacteria recovered from the untreated test specimens after 24 h	log	4,0	0,4
A _t - Count bacteria recovered from the treated samples 24 hours post inoculation	log	2,8	0,4

18LA12214/06 TPU0008/M17083101/10130/TPE/ <bacteria> - Samples with technology - Treponema denticola - 8 h			
Parameter - Note <i>Method - Note</i>	U.M.	Result Note	LoQ
Determination of antibacterial activity (R) - $R=(U_t-U_o)-(A_t-U_o)$ ISO 22196:2011		NOT EXECUTABLE	0,6

LEGEND: **U.M.** = Unit of measurement; (**Sup**) = upper limit; (**Inf**) = Lower Limit ;; $x \div y$ = acceptable range; **LoQ** = limit of quantification, the threshold value below which you choose not to bring any numerical result for the parameter in question; this limit is provided directly by the method, or is chosen on the basis of the experimental detection limits (LoQ or LoD) so as not to be changed over time or according to the chemical-physical or microbiological single sample; **LoD** = limit of detection; **NQ** = unquantifiable, indicates a value less than LoQ

"<x" or ">x" respectively indicate a value lower or higher than the measuring range of the test

UNLESS OTHERWISE SPECIFIED: Quantitative microbiological tests are performed on single replica and two consecutive dilutions in accordance with UNI EN ISO 7218: 2013 (with the exception of the analysis of water and MPN); the results of this test report are not correct for recovery factors (R) as the values of recovery are in the tolerance specified in the test method; summations are calculated using the criterion of the lower bound (LB)

If the sampling isn't the responsibility of 3ALaboratori Ltd., the test results were obtained on the basis of the data declared.

Technical Director

 Dr. Giovanni Mitaritonna
Chemist

Ordine Interprov. Chimici del Veneto - Padova n° 910 SEZ. A

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