

The influence of the test product on the key organisms of the respective body region was examined.

Information about the tested product:

Manufacturer:

TheGreenCell
15810 Gaither Road, Building 9
MD 20877 Gaithersburg
USA

Name of the product:

All in one

Product type:	Ingredient
Application:	Leave-on
Dilution:	0.5% in Squalane
Sample received:	20 July 2023
Test Start:	20 July 2023
Test End:	21 September 2023
Test Standard:	MyMicrobiome Standard 23.10 Mouth
Test result:	1.7
Certification:	Granted

Test description

The MyMicrobiome Standard evaluates cosmetic and personal care products, that encounter the skin or mucous membrane, in terms of their influence on the microbiome located at a specific body site.

An intact skin microbiome has a fundamental influence on skin health. Products which are to be skin-friendly must also be Microbiome-friendly in order not to unbalance the skin of the user.

The MyMicrobiome Standard evaluates the influence of cosmetic and personal care products on the microbial key players of a specific skin or mucous membrane area. The human microbiome is very individual from person to person.

Each area, however, harbors a characteristic composition of bacteria, viruses and fungi. The test examines the products influence on the key organisms typical for each skin area and thus offers a standardized procedure.

Various aspects are examined:

The microbial quality of the product.

The influence of the product on the natural, healthy skin balance.

Co-cultures are grown from the most common oral microbe, *Streptococcus sanguinis*, and the harmful bacteria/microbe, *Enterococcus faecalis*. A co-culture is exposed to the product to be tested and any change in the ratio of the two microbes is compared to an untreated control group. The ratio of the two dominant microbes must not be disturbed under the influence of the product in order to maintain balance.

The influence of the product on the bacterial diversity of the specific body region.

Each body region is colonized by a certain microbial composition. For a healthy skin it is particularly important to maintain this biodiversity. The influence of the product on the respective microbial mixture is examined in the test. The aim is to find as many key organisms as possible after contact with the product.

The influence of the product on the growth behavior of the microbes of the specific body region.

In addition to the diversity of the specific microbiome, the growth or number of different key organisms should not be influenced by the product. This is investigated in a skin-product contact model. The key organisms are brought into direct and indirect contact with the product and their growth is observed.

Results

The microbial quality of the product.

The prerequisite for the test for microbial friendliness is the microbiological quality of the product. The following table contains the limit values that must be observed.

Types of organisms	Limit values	
	Products specially designed for children under 3 years, eye area or mucous skins	Other products
Total counts mesophilic, aerobic microorganisms (bacteria, yeasts, molds, (TAMC and TYMC))	$\leq 1 \times 10^2$ cfu/g or ml ^a	$\leq 1 \times 10^3$ cfu/g or ml ^b
<i>Escherichia coli</i>	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
<i>Pseudomonas aeruginosa</i>	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
<i>Staphylococcus aureus</i>	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
<i>Candida albicans</i>	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
a >200 cfu/g or ml, b >2000 cfu/g or ml		

Results Microbiological quality

Determination of TAMC, TYMC, absence of *E. coli*, *P. aeruginosa* and *S. aureus*.

The microbiological quality of the product according to DIN EN ISO 17516 is fulfilled.

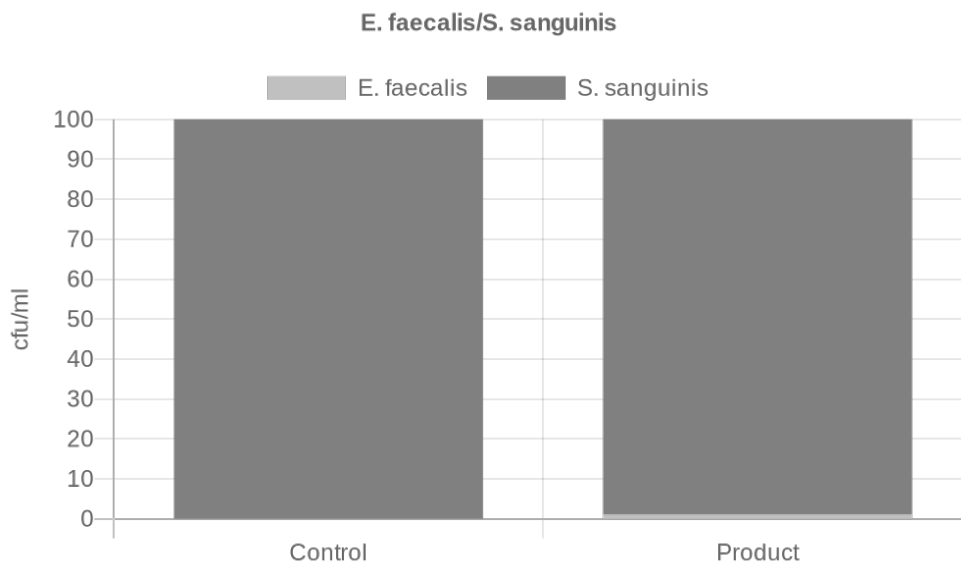
Parameter	Sample no.: 23.673.23.5
TAMC [cfu/0,1 ml]	< 1,0E+01
TYMC (incl. <i>Candida albicans</i>) [in 0,1 ml]	negative
<i>Escherichia coli</i> [in 0,1 ml]	negative
<i>Pseudomonas aeruginosa</i> [in 0,1 ml]	negative
<i>Staphylococcus aureus</i> [in 0,1 ml]	negative

Results

The influence of the product on the natural, healthy skin balance.

A co-culture of *E. faecalis* and *S. sanguinis* is incubated with the product.
The ratio of the two microbes to each other is determined.

Determination of the bacterial count at time t = 15 min (rinse-off) or 4h (leave-on).

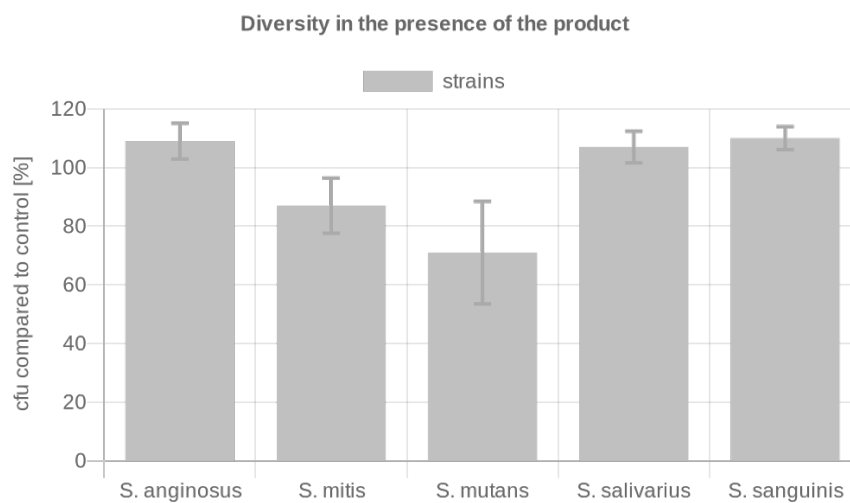


	cfu/ml		Ratio Product/ Control	Grade
	<i>E. faecalis</i>	<i>S. sanguinis</i>		
Control	246.7	120800	0.2	3
Product	1123.3	95733.3		

Results – ORAL -

The influence of the product on the microbial diversity of the specific body region.

A co-culture of key organisms of the specific body region is incubated with the product for t = 15 min (rinse-off) or 4h (leave-on). The ratio of the microbes compared to the control (PBS) is determined.



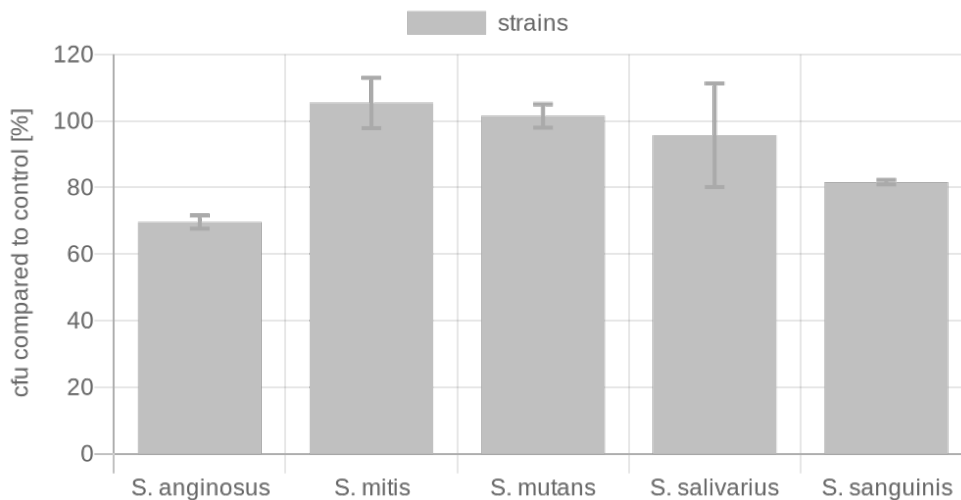
Key-Microbe	t=	4h	Rating
	cfu/ml		
<i>S. anginosus</i>	Control	9233.3	1
	Product	10066.7	
<i>S. mitis</i>	Control	1866.7	2
	Product	1633.3	
<i>S. mutans</i>	Control	2566.7	2
	Product	1833.3	
<i>S. salivarius</i>	Control	1000	1
	Product	1066.7	
<i>S. sanguinis</i>	Control	32666.7	1
	Product	35866.7	
Overall rating:			1.4

Results – ORAL -

The influence of the product on the growth behavior of the microbes of the specific body region – directly.

The influence of the product on the growth of each individual microbe of the key organisms of the specific body region is investigated and put in relation to the control (PBS). Product contact with the microorganisms is directly.

Growth in the presence of the product - direct



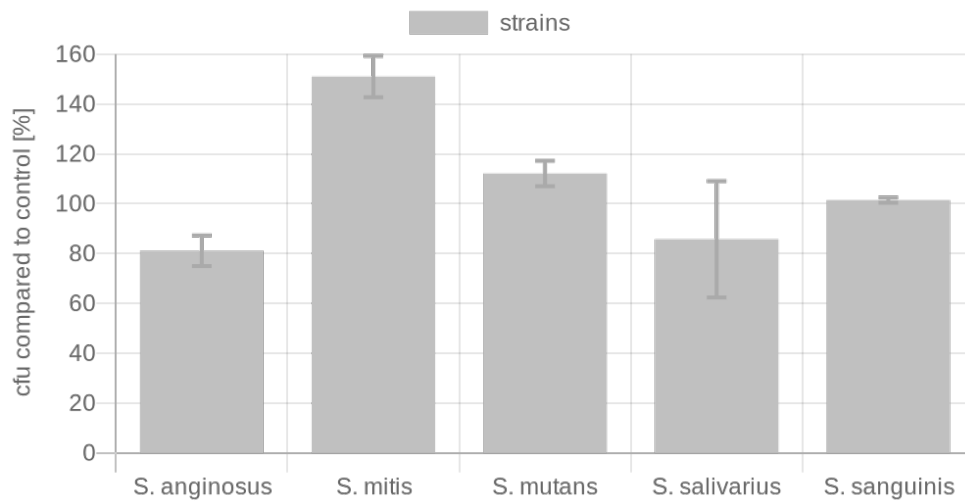
Key-Microbe	cfu/ml		Rating
<i>S. anginosus</i>	Control	1466.7	2
	Product	1021.3	
<i>S. mitis</i>	Control	121.7	1
	Product	128.3	
<i>S. mutans</i>	Control	701.3	1
	Product	712	
<i>S. salivarius</i>	Control	4.7	1
	Product	4.5	
<i>S. sanguinis</i>	Control	730.7	2
	Product	596	
Overall rating:			1.4

Results – ORAL -

The influence of the product on the growth behavior of the microbes of the specific body region – indirectly.

The influence of the product on the growth of each individual microbe of the key organisms of the specific body region is investigated and put in relation to the control (PBS). The product contact to the microorganisms is indirect.

Growth in the presence of the product - indirect



Key-Microbe	cfu/ml		Rating
<i>S. anginosus</i>	Control	1365.3	2
	Product	1106.7	
<i>S. mitis</i>	Control	95.7	2
	Product	144.5	
<i>S. mutans</i>	Control	630.7	1
	Product	706.7	
<i>S. salivarius</i>	Control	7	2
	Product	6	
<i>S. sanguinis</i>	Control	589.3	1
	Product	597.3	
Overall rating:			1.6

Results

The results are evaluated with grades from 1 (one) to 3 (three).

The product has passed up to grade 2.0.

Here the grade means:

1.0 – 2.0 = Microbiome-friendly | 2.1 – 3.0 = Microbiome-influencing

Test	Grade
Balance of the skin microbiome	3
Diversity of the corresponding skin microbiome (x2)	1.4
Skin-product contact direct (x2)	1.4
Skin-product contact indirect	1.6
Overall grade	1.7

With an overall grade of 1.7 the seal „Microbiome-friendly“ is awarded according to MyMicrobiome Standard 23.10 Mouth.

Place, Date: Balzers, 13 October 2023

Responsible person: Dr. Kristin Neumann

Signature:

