

Date of report: 23.7.2020

Preliminary report - results

Preliminary testing of the UVC solutions device in order to determine the test conditions and obtain the first information about the operation of the device.

1. Preliminary test

Date of experiment: 16.7.2020

Microbial culture data	Test strain	<i>Escherichia coli, isolate</i>
	Incubation medium	LBA agar (Luria Broth Agar)
	Incubation temperature	36±2°C
	Incubation time	21±3h
Summary of experimental conditions	Selected room	Analytical laboratory; premises of Microbium LLC, Litijska cesta 261, 1261 Ljubljana-Dobrunje, Slovenia
	Relative humidity	44 %
	Room temperature	27,2 %
	Volume of the indoor test room	63 m ³
	Carrier type	Stainless steel carriers with surface of 22,5 cm ² (length 9 cm and width 2,5 cm)
	Distance UVC device/carrier	Each carrier was placed in a respective location inside the selected room, depicted in Figure 1
	Contact time	6 min*, 21 min

**The UVC device turned off several times during the 6 min test. Actual exposure time of the test carriers is somewhere between 6-18 min.*

Tested positions:

1MH0	1 m from the device and 0 m from the ground, horizontal placement of the carrier
1MV0	1 m from the device and 0 m from the ground, vertical placement of the carrier
1MH1	1 m from the device and 1 m from the ground, horizontal placement of the carrier
1MV1	1 m from the device and 1 m from the ground, vertical placement of the carrier
3MH1	3 m from the device and 1 m from the ground, horizontal placement of the carrier
3MV1	3 m from the device and 1 m from the ground, vertical placement of the carrier
3MH2	3 m from the device and 2 m from the ground, horizontal placement of the carrier
3MV2	3 m from the device and 2 m from the ground, vertical placement of the carrier

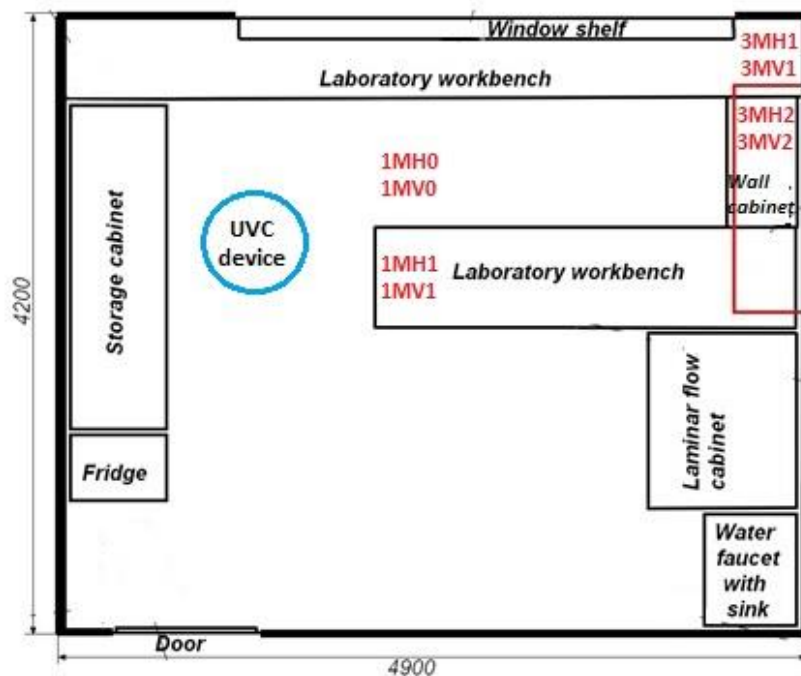


Figure 1: Presentation of the positioning of the stainless-steel carriers (plates) of 22,5 cm² surface.

Test carriers are prepared close to the principle of standard EVS EN 17272:2020.

Results

1.) UVC exposure time 21 min

Tested position	CFU/ml	Log ₁₀ reduction
Positive control	1,11E+05	/
1MH0	0	-6,04467
1MV0	0	-6,04467
1MH1	0	-6,04467
1MV1	0	-6,04467
3MH1	0	-6,04467
3MV1	0	-6,04467
3MH2	1,35E+04	-0,91434
3MV2	0	-6,04467

2. Preliminary test

Date of experiment: 21.7.2020

Microbial culture data	Test strain	<i>Staphylococcus aureus</i> , ATCC 6538
	Incubation medium	TSA agar (Tryptic Soy Agar)
	Incubation temperature	36±2°C
	Incubation time	21±3h
Summary of experimental conditions	Selected room	Analytical laboratory; premises of Microbium LLC, Litijska cesta 261, 1261 Ljubljana-Dobrunje, Slovenia
	Relative humidity	44 %
	Room temperature	27,7 %
	Volume of the indoor test room	63 m ³
	Carrier type	Stainless steel carriers with surface of 22,5 cm ² (length 9 cm and width 2,5 cm)
	Distance UVC device/carrier	Each carrier was placed in a respective location inside the selected room, depicted in Figure 1
	Contact time	6 min

Tested positions:

1MH0	1 m from the device and 0 m from the ground, horizontal placement of the carrier
1MV0	1 m from the device and 0 m from the ground, vertical placement of the carrier
1MH1	1 m from the device and 1 m from the ground, horizontal placement of the carrier
1MV1	1 m from the device and 1 m from the ground, vertical placement of the carrier
3MH1	3 m from the device and 1 m from the ground, horizontal placement of the carrier
3MV1	3 m from the device and 1 m from the ground, vertical placement of the carrier

Test carriers are prepared close to the principle of standard EVS EN 17272:2020.

Results

1.) UVC exposure time 6 min

Tested position	CFU/ml	Log ₁₀ reduction
Positive control	1,07E+08	/
1MH0	0	-9,02803
1MV0	0	-9,02803
1MH1	4,67E+03	-4,35902
1MV1	0	-9,02803
3MH1	0	-9,02803
3MV1	4,00E+03	-4,42597

Note: The experiments of the first preliminary test were performed in duplicate and the experiments of the second preliminary test were performed in one replicate.

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