INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.
třída Tomáše Bati 299, Louky, 763 02 Zlín, Czech Republic
Testing laboratory

TEST REPORT
ref. No. 412113810-01

Client:	ALL2COVER, s.r.o. Company registration number: CZ21020809
Address:	Dykova 397/26, Židenice (Brno-Židenice), 636 00 Brno, Czech Republic
Sample:	**Brown bottle GDBA,** **Blue bottle GDBE,** **Green bottle GDBG,** **Black bottle GDBBK**
Sample received on:	August 30, 2024
Tested:	September 18, 2024
Report elaborated by:	Dipl. Ing. Martina Vyoralová
Place and date of issue:	Zlín, September 30, 2024

AKREDITOVANÁ LABORATOŘ 1004 Institut pro testování a certifikaci, a.s. Zlín

Dipl. Ing. Jiří Samsonek, Ph.D.
Head of Accredited Testing Laboratory

Note: The results given in this Test Report apply only to the sample tested by our laboratory!
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Sample description and identification:

Table No. I – Sample description according to the client's declaration

ITC's identification number	Sample identification by client	Description of submitted sample
412113810/01	**Brown bottle GDBA**	Brown glass bottle - see Fig. No. I
412113810/02	**Blue bottle GDBE**	Blue glass bottle - see Fig. No. I
412113810/03	**Green bottle GDBG**	Green glass bottle - see Fig. No. I
412113810/04	**Black bottle GDBBK**	Black glass bottle - see Fig. No. I



Fig. No. I – Sample No. 412113810/01, 412113810/02, 412113810/03 and 412113810/04

Sampling method used:
The test sample was collected and supplied to the laboratory by the client. The laboratory is not responsible for this way of sampling. The results apply to the sample received.

Request:
1. Determination of spectral transmission in the range of 190-600 nm

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Testing method used:

1. Determination of spectral transmission by spectrophotometry according to Ph. Eur. Chap. 3.2.1., as ammended

Test conditions:

1. Determination of spectral transmission of the bottle wall and the bottom

Slit width:	5 nm
Scan speed of monochromator:	Medium
Sampling interval of A/D convertor:	1,0 nm
Spectral region:	190-600 nm
Number of measurements:	10

Measurement was carried out using an integrating sphere, d = 6 cm

The laboratory is not responsible for information received from customer, which could have influence on the validity of the results. Further information required by the standard/standards and not given in this Test Report are available at a request at the Laboratory.

Testing laboratory:

All tests were performed in Workplace no.: 1 - třída Tomáše Bati 299, Louky, 763 02 Zlín.

Test results:

Test results are listed in th following tables

Sample No. 412113810/01 – Brown bottle GDBA

Table II: Measurement of spectral transmission

Parameter	Unit	Test results		Uncertainty [1)]
		Value range	Mean	
Spectral transmission (190-600 nm)	%	32,5 – 40,9 [2)]	**38,3** [3)]	3,3

Notes to table:

[1)] Expanded uncertainty for coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%.
[2)] The range of maximum values measured at wavelenth of 600 nm
[3)] Themean value from 10 measurements.

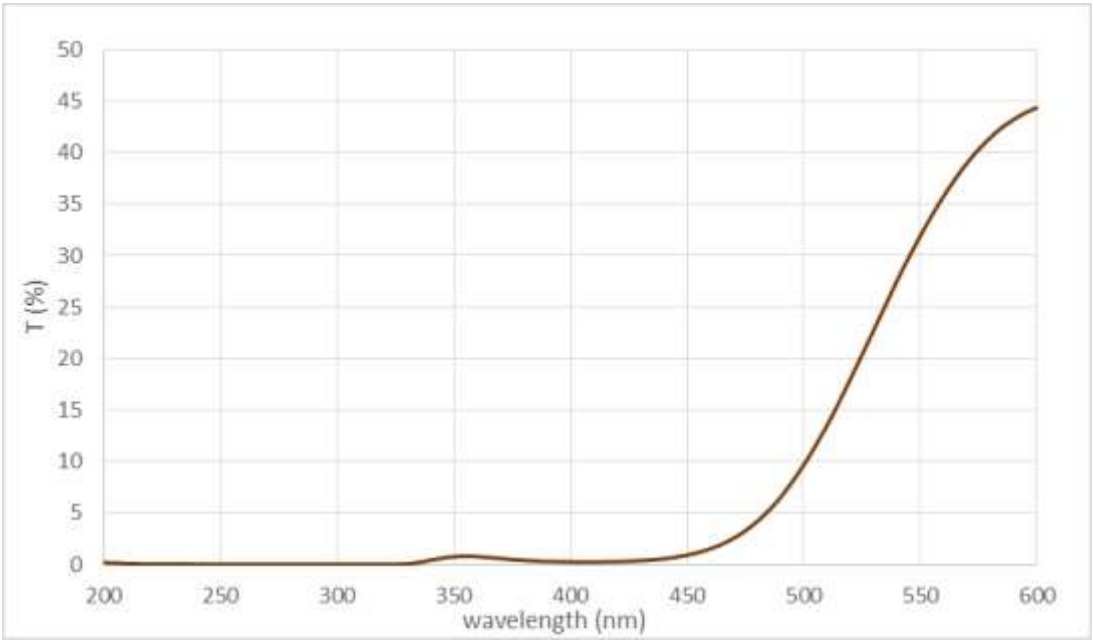


Figure 2 – Spectral transmission of sample no. 412113810/01 in the spectral region 190 – 600 nm

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Sample No. 412113810/02 – Blue bottle GDBE

Table III: Measurement of spectral transmission

Parameter	Unit	Test results		Uncertainty [1)]
		Value range	Mean	
Spectral transmission (190-600 nm)	%	76,5 – 82,2 [2)]	**80,2 [3)]**	2,0

Notes to table:

[1)] Expanded uncertainty for coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[2)] The range of maximum values measured at wavelenth of 402-404 nm

[3)] Themean value from 10 measurements.

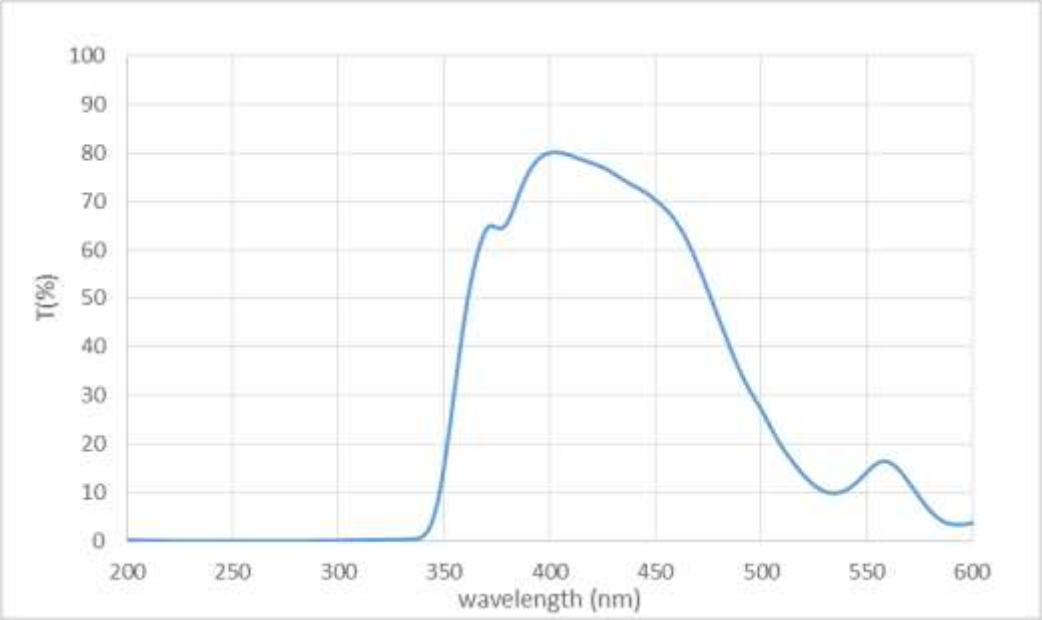


Figure 3 – Spectral transmission of sample no. 412113810/02 in the spectral region 190 – 600 nm

Sample No. 412113810/03 – Green bottle GDBG

Table IV: Measurement of spectral transmission

Parameter	Unit	Test results		Uncertainty [1)]
		Value range	Mean	
Spectral transmission (190-600 nm)	%	51,5 – 61,6 [2)]	**56,4 [3)]**	2,5

Notes to table:

[1)] Expanded uncertainty for coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%.
[2)] The range of maximum values measured at wavelenth of 541 nm
[3)] Themean value from 10 measurements.

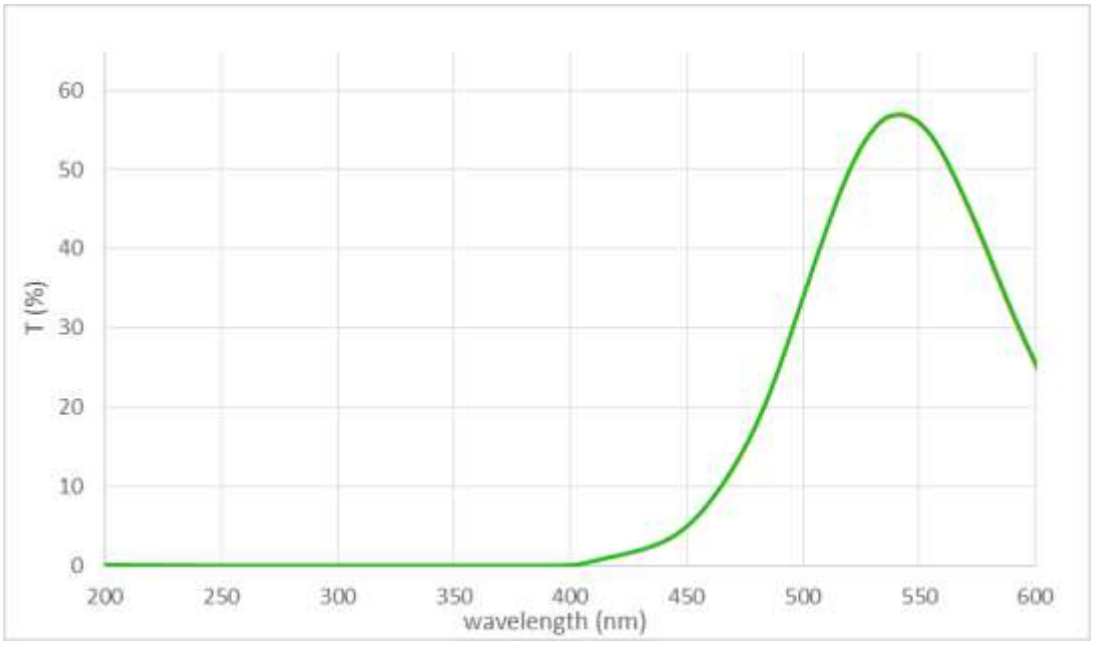


Figure 4 – Spectral transmission of sample no. 412113810/03 in the spectral region 190 – 600 nm

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Sample No. 412113810/04 – Black bottle GDBBK

Table V: Measurement of spectral transmission

Parameter	Unit	Test results [1]		Uncertainty [2]
		Value range	Mean	
Spectral transmission (190-600 nm)	%	< 1 [3]	< 1 [3, 4]	-

Notes to table:
1) Symbol „<“ means below the limit of quantification of method
2) Expanded uncertainty for coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%.
3) The range of maximum values measured at wavelenth of 394 - 395 nm
4) Themean value from 10 measurements.

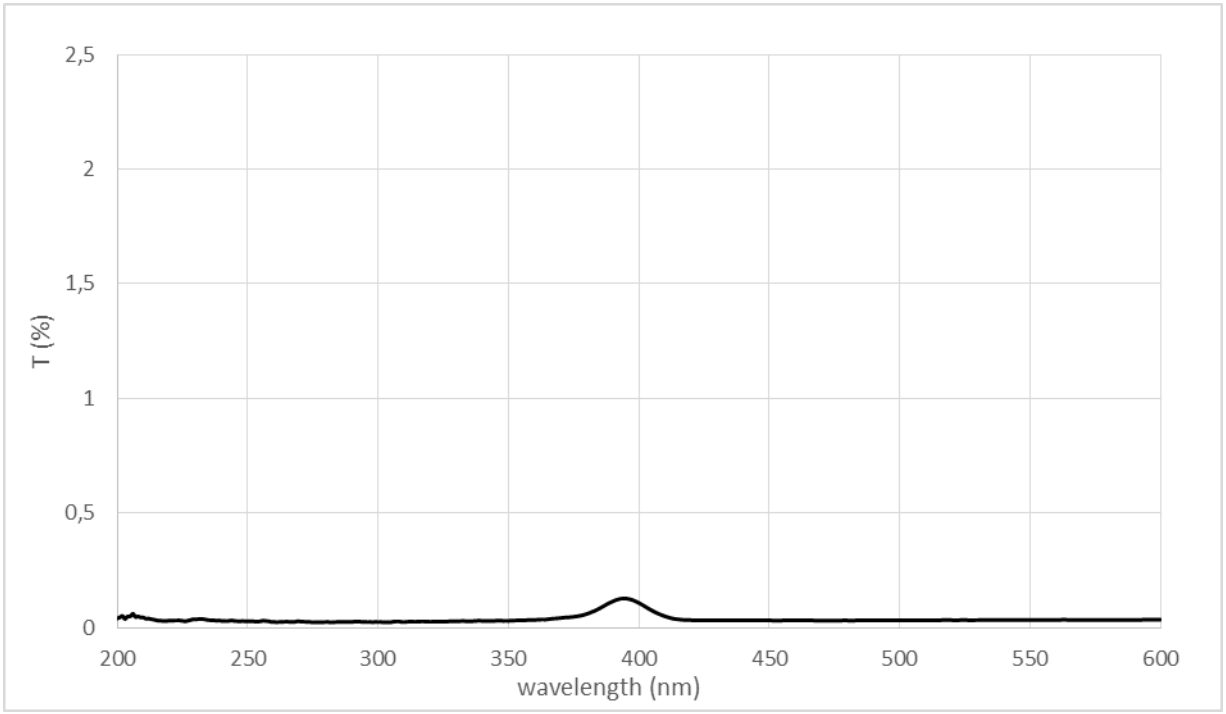


Figure 5 – Spectral transmission of sample no. 412113810/04 in the spectral region 190 – 600 nm

Dipl. Ing. Daniel Vít
Head of the laboratory of analytical chemistry and microbiology

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