



**TÜBİTAK  
BURSA TEST AND ANALYSIS LABORATORY**

AB-0494-T
GT20230319
09-23

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**TEST REPORT**

**Customer Name/Address** :KORUDAĞ ZEYTİN ÇİFTLİĞİ / Mistral İş Kulesi Çınarlı Mah. Ankara Asfaltı  
No:15 / D: 321 Konak / İZMİR

**T/F**:(232) 463-19-79/ /

**Order Date/No** :19/09/2023

**Sample Description** : HARVENA-2023

**Sample Receipt Date** :22/09/2023

**Sample Delivered by**: Cargo Delivery

**Number of Pages**: 3

**Remarks** : Sampling and identification of the sample was done by the customer. By the request of the customer, Turkish version of the same date and numbered report was also created.

\*TÜBİTAK Bursa Test and Analysis Laboratory accredited by TÜRKAK under registration number AB-0494-T for General Requirements for the Competence of Testing and Calibration Laboratories TS EN ISO/IEC 17025 as test laboratory.

\*Test results, methods measurement uncertainty (if applicable, given in 95% confidence interval) and other information are given on the following pages which are part of this report.

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\*In case the information provided by the customer, TÜBİTAK BUTAL will not be responsible for this information.

\*In case of sampling by customer the results in this report refer only to samples tested

\*In case of sampling by customer, the sampling uncertainty were not included to the uncertainty budget.

\*Test marked with (A) refers the test within the scope of TS EN ISO / IEC 17025 accreditation and marked with (D) refers the test provided by external sources.

\*Testing reports without e-signature are not valid.

*Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.*

Date  
27/09/2023

*e-signature*

Anil ÇETİNOĞLU

Person in Charge of Laboratories

*e-signature*

Sedat AKTAŞ

Director

This document has been signed by e-signature.

The document can be verified via the link " <https://butalonlinetest.tubitak.gov.tr/butalOnline> " using the code "HW3334152<05M"

**Test Date** : 22-26.09.2023  
**Sample Identification** : HARVENA-2023

Parameters	Unit	Test Method	Test Result Mean $\pm$ s	Limit Value <sup>2</sup>	Conformity <sup>3</sup>
				Extra Virgin Oil	
Free Acidity (as oleic acid) <sup>1</sup>	%	(A) TS EN ISO 660	0.24 $\pm$ 0.01	$\leq$ 0.8	Pass
Peroxide value <sup>1</sup>	meqO <sub>2</sub> /kg	(A)TS EN ISO 27107	4.0 $\pm$ 0.3	$\leq$ 20	Pass
Total Polyphenol (in terms of Tyrosol equivalent)	mg/100g	COI/T.20/Doc.No29	31.5 $\pm$ 0.3	-	-
Absorbency in ultra-violet E (232 nm)		ISO 3656	1.58 $\pm$ 0.02	$\leq$ 2.5	Pass
Absorbency in ultra-violet E (270 nm)		ISO 3656	0.10 $\pm$ 0.01	$\leq$ 0.22	Pass
Absorbency in ultra-violet ( $\Delta$ E)		ISO 3656	<0.01	$\leq$ 0.01	Pass
Iodine value	Wijs g/100g oil	EN ISO 3961	91 $\pm$ 2	-	-
Antioxidant Capacity (IC50 trolox equivalent)	$\mu$ mol/g	DPPH Method	1.76 $\pm$ 0,01	-	-

<sup>1</sup>) Test standart deviation is given as U (k=2) measurement uncertainty.

<sup>2</sup>) Limit values are taken from Turkish Food Codex Communiqué on Olive Oil and Pirina Oil  
(Communiqué No: 2017/26)

<sup>3</sup>) While choosing the decision rule used in conformity assessment, "Guideline on declaration of conformity to ILAC G8 Specification" was taken as reference. The declaration of conformity is based on a 95% coverage probability for the expanded uncertainty of measurement results.

Test Date : 22-26.09.2023  
Sample Identification : HARVENA-2023

Parameters	Unit	Test Result Mean $\pm$ u(k=2)	Test Method	Limit Value <sup>1</sup> Extra Virgin Oil	Conformity <sup>2</sup>	
Butyric Acid (C4:0)	%	<0.38	TS EN ISO 12966-2			
Caproic Acid (C6:0)	%	<0.06				
Caprylic Acid (C8:0)	%	<0.05				
Capric Acid (C10:0)	%	<0.05				
Undecanoic Acid (C11:0)	%	<0.05				
Lauric Acid (C12:0)	%	<0.07				
Tridecanoic Acid (C13:0)	%	<0.11				
Myristic Acid (C14:0)	%	<0.05			<0.03	Pass
Myristoleic Acid (C14:1)	%	<0.05				
Pentadecanoic Acid (C15:0)	%	<0.05				
Pentadecenoic Acid C15:1	%	<0.05				
Palmitic Acid (C16:0)	%	13.9 $\pm$ 1.2			7.5-20	Pass
Palmitoleic Acid (C16:1)	%	0.90 $\pm$ 0.01			0.3-3.5	Pass
Margaric Acid (C17:0)	%	0.05 $\pm$ 0.01			<0.4	Pass
Heptadecenoic Acid (C17:1)	%	0.23 $\pm$ 0.01			<0.6	Pass
Stearic Acid (C18:0)	%	3.03 $\pm$ 0.23			0.5-5.0	Pass
trans Elaidic Acid (C18:1t)	%	<0.05				
Oleic Acid (C18:1c)	%	72.1 $\pm$ 5.5			55.0-83.0	Pass
trans Linolelaidic Acid (C18:2t)	%	<0.05				
Linoleic Acid (C18:2c)	%	6.73 $\pm$ 0.50			2.5-21.0	Pass
trans Linolenic Acid (C18:3t)	%	<0.05	TS EN ISO 12966-4			
$\gamma$ Linolenic Acid (C18:3n6)	%	<0.05				
Arachidic Acid (C20:0)	%	0.46 $\pm$ 0.01			$\leq$ 0.6	Pass
$\alpha$ -Linolenic Acid (C18:3n3)	%	0.71 $\pm$ 0.01			$\leq$ 1.0	Pass
Eicosenoic (C20:1)	%	0.29 $\pm$ 0.01			$\leq$ 0.5	Pass
Henicosanoic Acid (C21:0)	%	<0.05				
Eicosadienoic Acid (C20:2)	%	<0.05				
Eicosatrienoic Acid (C20:3n6)	%	<0.05				
Behenic Acid (C22:0)	%	0.12 $\pm$ 0.01			$\leq$ 0.2	Pass
Eikosatrienoic Acid (C20:3n3)	%	<0.05				
Erucic Acid (C22:1)	%	<0.05				
Arachidonic Acid (C20:4)	%	<0.05				
Tricosanoic Acid C23:0	%	1.19 $\pm$ 0.01				
Docosadienoic Acid (C22:2)	%	<0.05				
Eicosapentaenoic Acid (C20:5)	%	<0.05				
Lignoceric Acid (C24:0)	%	0.08 $\pm$ 0.01			$\leq$ 0.2	Pass
Nervonic Acid (C24:1)	%	<0.05				
Dokocahexaenoic Acid (C22:6)	%	<0.08				
Saturate Fatty Acids	%	18.8 $\pm$ 3.0				
Mono-unsaturate Fatty Acids	%	73.5 $\pm$ 2.3				
Poly-unsaturate Fatty Acids	%	7.5 $\pm$ 0.4				

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