

Expertise in Olive Oil Testing since 1993

Registration number: 7833701000

**International Olive Council** Recognized laboratory physico-chemical testing - Type B 01/12/2024 - 30/11/2025

Date of issue: 23/1/2025

(to): 23/1/2025

Head Office: Sfakion str. 50, 12131 Peristeri - Athens Greece tel. +30 2105910620 fax. +30 2105311580 e-mail: info@multichromlab.com Branch Office: George Vasilakis str. 143 and Diomede, 71410 Herakleion, Crete Greece, tel. +30 2810260736 e-mail: labcrete@multichromlab.com

**CERTIFICATE OF ANALYSIS no:** P-121277

**CUSTOMER: SUN GROVE FOODS INC PHONE**: 28210-33302

MULTICHROM.LAB CODE No: P-121277 Date of analysis (from): 20/1/2025

**COMMODITY ACCORDING TO** 

**CUSTOMER: EXTRA VIRGIN OLIVE OIL RECEIVING DATE: 20/1/2025 SAMPLE CONDITION: NORMAL** 

**SAMPLING BY: CUSTOMER** SEALS: None

**DATA: SAMPLE HOUSE BLEND** 

## **RESULTS**

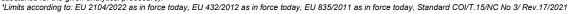
| Determination   | LoD | LoQ  | Method   | Unit     | Result | Limit <sup>1</sup> |
|---|-----|------|--|----------|--------|--------------------|
| Free fatty acid content (as oleic acid)   |     |      | COI/T.20/DOC.<br>34/Rev. 1 – 2017                | %        | 0,49   | ≤ 0,80             |
| K Coefficients  |     |      | COI/T.20/DOC.19/Re<br>v.5/2019                   | -        | -      | -                  |
| K268  |     |      |  | -        | 0,168  | ≤ 0,22             |
| K232  |     |      |  | -        | 1,897  | ≤ 2,50             |
| DK  |     |      |  | -        | -0,001 | ≤ 0,01             |
| Peroxide Value  |     |      | COI/T.20/DOC.35/Re v.1/2017                      | meqO2/kg | 9,7    | ≤20,0              |
| Total Halogenated Volatile<br>Solvents  |     | 0,01 | 2568/91 <sup>a</sup>                             | mg/kg    | <0,01  | ≤ 0,2              |
| ΔECN42  |     |      | COI/T.20/Doc.No.20/<br>Rev.4/2017 as in<br>force | -        | 0,13   | ≤ 0,20             |
| Stigmastadienes   |     | 0,01 | COI/T.20/Doc. No<br>16/Rev. 2 2017 <sup>a</sup>  | mg/kg    | 0,03   | ≤ 0,05             |
| 1,2-Diglycerides (Dag's)  |     |      | COI/T.20/Doc. No<br>32 2013a                     | %        | 66     | -                  |
| Biophenols (as tyrosol)   |     |      | COI/T.20/Doc. No<br>29/ Rev 1 2017 <sup>a</sup>  | mg/kg    | 282    | -                  |
| Hydroxytyrosol (3,4 DHPEA)  |     |      |  |          | 11     | -                  |
| Tyrosol (p-HPEA)  |     |      |  |          | 7      | -                  |
| Dialdehydic form of<br>Decarboxymethyl Oleuropein<br>aglicon (3,4 DHPEA-EDA or<br>oleacin)    |     |      |  |          | 53     | -                  |
| Dialdehydic form of<br>Decarboxymethyl ligstroside<br>aglicon (p, HPEA-EDA or<br>oleocanthal) |     |      |  |          | 57     | -                  |
| Lignans   |     |      |  |          | 34     | -                  |

<sup>&</sup>lt;sup>a</sup> Method outside the scope of accreditation. Compound outside the scope of accreditation.

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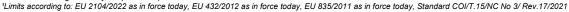
| Determination  | LoD | LoQ | Method                            | Unit   | Result | Limit¹      |
|--|-----|-----|-----------------------------------|--------|--------|-------------|
| Oleuropein aglycon (dialdehyde, oxidized and not aldehyde & hydroxylic forms)        |     |     |                                   |        | 69     | -           |
| Ligstroside aglycon<br>(dialdehyde, oxidized and not<br>aldehyde & hydroxylic forms) |     |     |                                   |        | 24     | -           |
| Hydroxytyrosol ant its<br>derivatives for health claim<br>Regulation EU 432/2012     |     |     |                                   | mg/20g | 4,4    | ≥ 5         |
| Pyropheophytins (of total Pheophytins) (PPP)   |     | 0,1 | ISO 29841:2009 <sup>a</sup>       | %      | 0.5    | -           |
| Ethylesters of Fatty Acids   | 1   | 2   | COI/T.20/Doc. 28 -<br>2009        | mg/kg  | 5      | ≤ 35        |
| Fatty Acid Composition   |     |     | COI/T.20/DOC.<br>33/Rev. 1 – 2017 | %      | -      | -           |
| C14:0 (Myristic)   |     |     |                                   |        | 0,01   | ≤ 0,03      |
| C16:0 (Palmitic)   |     |     |                                   |        | 9,11   | 7,00-20,00  |
| C16:1 (Palmitoleic)  |     |     |                                   |        | 0,85   | 0,30-3,50   |
| C17:0 (Heptadecanoic)  |     |     |                                   |        | 0,04   | ≤ 0,40      |
| C17:1 (Heptadecenoic)  |     |     |                                   |        | 0,06   | ≤ 0,60      |
| C18:0 (Stearic)  |     |     |                                   |        | 3,18   | 0,50-5,00   |
| C18:1 (Oleic) (ω9)   |     |     |                                   |        | 72,69  | 55,00-85,00 |
| C18:2 (Linoleic) (ω6)  |     |     |                                   |        | 7,39   | 2,50-21,00  |
| C18:3 (Linolenic) (ω3)   |     |     |                                   |        | 0,69   | ≤ 1,00      |
| C20:0 (Arachidic)  |     |     |                                   |        | 0,49   | ≤ 0,60      |
| C20:1 (Eicosenoic)   |     |     |                                   |        | 0,28   | ≤ 0,50      |
| C22:0 (Behenic)  |     |     |                                   |        | 0,14   | ≤ 0,20      |
| C22:1 (Erucic) (ω9)  |     |     |                                   |        | <0,01  | -           |
| C24:0 (Lignoceric)   |     |     |                                   |        | 0,07   | ≤ 0,20      |
| trans C18:1  |     |     |                                   |        | 0,01   | ≤ 0,05      |

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**DATA: SAMPLE HOUSE BLEND** 

## **RESULTS**

| Determination                       | LoD | LoQ | Method   | Unit   | Result | Limit <sup>1</sup> |
|-------------------------------------|-----|-----|--|--------|--------|--------------------|
| trans C18:2 + trans C18:3           |     |     |  |        | 0,01   | ≤ 0,05             |
| Sterols                             |     |     | COI/T.20/Doc.no.26/<br>Rev.5/2020 as in<br>force | mg/kgr | 1332   | ≥ 1000             |
| Cholesterol                         |     |     |  | %      | 0,3    | ≤ 0,5              |
| Brasicasterol                       |     |     |  | %      | <0,1   | ≤ 0,1              |
| 24-methylcholesterol                |     |     |  | %      | 0,4    | -                  |
| Campesterol (Campes.)               |     |     |  | %      | 3,3    | ≤ 4,0              |
| Campestanol                         |     |     |  | %      | 0,1    | -<br>-             |
| Stigmasterol                        |     |     |  | %      | 0,5    | < Campes.          |
| d7-campestanol                      |     |     |  | %      | 0,0    | <u>-</u>           |
| d5,23stigm/dienol                   |     |     |  | %      | 0,0    | -                  |
| Clerosterol                         |     |     |  | %      | 1,0    | -                  |
| 3-sitosterol                        |     |     |  | %      | 73,3   | -                  |
| Sitostanol                          |     |     |  | %      | 0,2    | -                  |
| d5-avenasterol                      |     |     |  | %      | 19,2   | -                  |
| d5,24-stigm/dienol                  |     |     |  | %      | 0,8    | -                  |
| d7-stigmastenol                     |     |     |  | %      | 0,2    | ≤ 0,5              |
| d7-avenasterol                      |     |     |  | %      | 0,5    | -                  |
| Erythrodiol                         |     |     |  | %      | 2,4    | -                  |
| Jvaol                               |     |     |  | %      | 0,1    | -                  |
| Erythrodiol+uvaol                   |     |     |  | %      | 2,5    | ≤ 4,5              |
| Total b-sitosterol                  |     |     |  | %      | 94,6   | ≥ 93,0             |
| Waxes (C42+C44+C46)                 |     |     | COI/T.20/DOC.28/Re v.3/2022 as in force          | mg/kgr | 29     | ≤ 150              |
| Polycyclic Aromatic<br>Hydrocarbons |     |     | Internal (GC/MS) <sup>a</sup>                    | μg/kg  | -      | -                  |
| Benzo(a)anthracene                  | 0,2 | 0,5 |  |        | <0.5   | -                  |
| Chrysene                            | 0,2 | 0,5 |  |        | 0.72   | -                  |

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Limits according to: EU 2104/2022 as in force today, EU 432/2012 as in force today, EU 835/2011 as in force today, Standard COI/T.15/NC No 3/ Rev.17/2021



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Dimitrios Salivaras Laboratory Supervisor

Emmanuel Salivaras, M.Sc. Laboratory General Manager

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