Joint Order of the Minister of Agriculture and Maritime Fisheries and the Minister of Industry, Trade, Investment and Digital Economy No. 293-16 of 22 Rabii Tani 22, 1437 (February 2, 2016) setting the physico-chemical and/or organoleptic characteristics to be met by marketed olive oils and olive pomace oils

(OG n°6458 of April 21, 2016, page 685)

THE MINISTER OF AGRICULTURE AND MARITIME FISHERIES,
THE MINISTER OF INDUSTRY, TRADE, INVESTMENT AND DIGITAL ECONOMY,

Having regard to Decree No. 2-14-268 of Rabii Tani 8, 1436 (January 29, 2015) relating to the quality and health safety of marketed olive oils and olive pomace oils, in particular its article 5,

ORDER:

FIRST ARTICLE. - The physico-chemical and/or organoleptic characteristics referred to in Article 5 of Decree No. 2-14-268 referred to above, which must be met by oils of the categories provided for in articles 3 and 4 of the same decree, shall be laid out in the appendix to present decree.

ARTICLE 2. - This joint order shall be published in the Official Gazette.

Rabat, Rabii Tani 22, 1437 (February 2, 2016)
The Minister of Agriculture and Maritime Fisheries, Aziz AKHANNOUCH
Minister of Industry, Trade, Investment and Digital Economy, Moulay HAFID ELALAMY

ANNEX:

to the joint order of the Minister of Agriculture and Maritime Fisheries and the Minister of Industry, Trade, Investment and the Digital Economy No. 293-16 of Rabii Tani 22, 1437 (February 2, 2016) setting the physico-chemical and/or organoleptic characteristics to be met by marketed olive oils and olive pomace oils.

****

Physico-chemical and/or organoleptic characteristics to be met by olive oils and marketed olive-pomace oils

1- Purity criteria:

1-1 Fatty acid composition: (% m/m of methyl esters)

- Myristic acid	≤ 0.03
- Palmitic acid	7.5 - 20.0
- Palmitoleic acid	0.3 - 3.5
- Heptadecanoic acid	≤ 0.3
- Heptadecenoic acid	≤ 0.3
- Stearic acid	0.5 - 5.0
- Oleic acid	55.0 - 83.0
- Linoleic acid	2.5 - 21.0
- Linolenic acid	≤ 1.2
- Arachidic Acid	≤ 0.6
- Gadoleic acid (eicosenoic)	≤ 0.4
- Behenic acid (*)	≤ 0.2 (*)
- Lignoceric acid	≤ 0.2

(*) Limit raised to ≤ 0.3 for olive pomace oils.

1-2 Content of trans fatty acids (% of trans fatty acids)

Oil category	**C18:1 T (%)**	**C18:2T + C18:3T (%)**
- Virgin olive oil suitable for consumption	≤0.05	≤0.05
- Lamp virgin olive oil	≤ 0.10	≤0.10
- Refined olive oil	≤0.20	≤0.30
- Olive oil	≤ 0.20	≤0.30
- Crude olive pomace oil	≤ 0.20	≤0.10
- Refined olive pomace oil	≤0.40	≤0.35
- Olive pomace oil	≤0.40	≤ 0.35

1- 3 Composition of sterols and triterpene dialcohols

1-3-1 Composition of desmethylsterols (% of total sterols)

- Cholesterol	≤ 0.5
- Brassicasterol (*)	≤ 0.1 (*)
- Campesterol (**)	≤ 4.0 (**)
- Stigmasterol	< Campesterol for oils suitable for consumption
- Delta-7-stigmastenol (**)	≤ 0.5 (**)
- Apparent beta-sitosterol: (beta-sitosterol + delta-5-avenasterol + delta 5-23-stigmastadienol + clerosterol + sitostanol + delta 5-24-stigmastadienol)	≥ 93.0

(*) Limit raised to ≤ 0.2 for olive pomace oils.

(**) For virgin and extra virgin olive oils, the campesterol content may be between 4% and 4.5% provided that the Stigmasterol and delta7-stigmastenol contents are respectively less than or equal to 1, 4% and 0.3%. The other characteristics must comply with the limits set out in this appendix.

1-3-2 Total sterol content (mg/kg)

- Virgin olive oil - Refined olive oil - Olive oil	≥ 1000
- Crude olive pomace oil	≥ 2,500
- Refined olive pomace oil	≥ 1800
- Olive pomace oil	≥ 1600

1-3-3 Erythrodiol and uvaol content (% of total sterols)

- Virgin olive oils suitable for consumption	≤4.5
- Lamp virgin olive oil (1)	≤4.5 (1)
- Refined olive oil	≤ 4.5
- Olive oil	≤4.5
- Crude olive pomace oil (2)	> 4.5 (2)
- Refined olive pomace oil	> 4.5
- Olive pomace oil	> 4.5

1-3-4 Wax content

C42 + C44 + C46 (mg/kg)

Extra virgin olive oil and virgin olive oil ≤ 150

C40 + C42 + C44 + C46 (mg/kg)

- Common virgin olive oil	≤ 250
- Lamp virgin olive oil (1)	≤ 300 (1)
- Refined olive oil	≤ 350
- Olive oil	≤ 350
- Crude olive pomace oil (2)	> 350 (2)
- Refined olive pomace oil	> 350
- Olive pomace oil	> 350

(1) When the oil has a wax content of between 300 and 350 mg/kg, it is considered a lamp virgin olive oil if its total aliphatic alcohol content is ≤ 350 mg/kg or if its in erythrodiol + uvaol is ≤ 3.5%.

(2) When the oil has a wax content of between 300 and 350 mg/kg, it is considered to be crude olive-pomace oil if its total aliphatic alcohol content is > 350 mg/kg and if its erythrodiol + uvaol content is > 3.5%.

1-3-5 Maximum difference between the actual content and the theoretical content of triglycerides at ECN 42

- Virgin olive oil suitable for consumption	≤ |0.2|
- Lampante virgin olive oil	≤ |0.3|
- Refined olive oil	≤ |0.3|
- Olive oil	≤ |0.3|
- Crude olive pomace oil	≤ |0.6|
- Refined olive pomace oil	≤ |0.5|
- Olive pomace oil	≤ |0.5|

1-3-6 Stigmastadiene content (mg/kg)

- Extra virgin olive oil and Virgin olive oil	≤ 0.05
- Common virgin olive oil	≤ 0.10
- Lampante virgin olive oil	≤ 0.50

1-3-7 Content of 2-glyceryl monopalmitate

- Virgin olive oil suitable for consumption and olive oil:

C16:0 ≤14.0%; 2P≤0.9%
C16:0 > 14.0%; 2P ≤1.0%

- Virgin olive oil unfit for consumption and refined olive oil:

C16:0 ≤14.0%; 2P≤0.9%
C16:0 > 14.0%; 2P≤1.1%

- Olive pomace oil ≤1.2%
- Crude and refined olive pomace oil ≤1.4%

1-3-8 Unsaponifiable content (g/kg)

- Olive oil	≤ 15
- Olive pomace oil	≤ 30

2- **Quality criteria:**

	extra virgin olive oil	**Virgin olive oil**	**Common virgin olive oil**	**Lamp virgin olive oil (1)**	**Refined olive oil**	**Olive oil**	**Crude olive pomace oil**	**Refined olive pomace oil**	**Olive pomace oil**
1- Organoleptic characteristics:									
Smell and flavor					acceptable	Good		acceptable	Good
Smell and flavor (on a continuous scale): - Median of the defect - Median fruitiness	Me = 0 Me > 0	0 < Me≤ 3.5 Me > 0	3.5 < Me ≤6.0 **(2)**	Me > 6					
Color					Pale yellow	Clear yellow to green		Clear Yellow to Yellow brown	Clear Yellow to green
Appearance at 20°C for 24 hours					crystal clear	crystal clear		crystal clear	crystal clear
2- Free acidity:									
% m/m expressed in oleic acid	≤ 0.8	≤ 2.0	≤ 3.3	> 3.3	≤ 0.3	≤ 1.0	not limited	≤ 0.3	≤ 1.0
3- Peroxide index: in milliequivalents of oxygen peroxides per kg of oil	≤ 20	≤ 20	≤ 20	not limited	≤5	≤15	not limited	≤5	≤15

(1) the simultaneity of criteria 1, 2 and 3 is not mandatory, a single one may suffice.

(2) Or when the defect median is less than or equal to 3.5 and the fruitiness median is equal to 0.

2- **Quality criteria** (continued)

	extra virgin olive oil	Virgin olive oil	Common virgin olive oil	Lampante virgin olive oil	Refined olive oil	Olive oil	Crude olive pomace oil	Refined olive pomace oil	Olive pomace oil
4- Absorbance in the ultraviolet:									
- at 270nm (cyclohexane) / 268 nanometers (iso-octane)	≤ 0.22	≤ 0.25	≤ 0.30		≤ 1.10	≤ 0.90		≤ 2.00	≤ 1.70
- Δk	≤ 0.01	≤ 0.01	≤ 0.01		≤ 0.16	≤ 0.15		≤ 0.20	≤ 0.18
- at 232nm	≤ 2.50	≤ 2.60							
5- Water and volatile matter content (% m/m)	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.3	≤ 0.1	≤ 0.1	≤ 1.5	≤ 0.1	≤ 0.1
6- Content of Impurities insoluble in petroleum ether (% m/m)	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.2	≤ 0.05	≤ 0.05		≤ 0.05	≤ 0.05
7- Flash point	-	-	-	-	-	-	≥ 120°C	-	-
8- Metallic traces (mg/kg): **- iron** **- copper**	 ≤3.0 ≤0.1	 ≤3.0 ≤0.1	 ≤3.0 ≤0.1	 ≤3.0 ≤0.1	 ≤3.0 ≤0.1	 ≤3.0 ≤0.1		 ≤3.0 ≤0.1	 ≤3.0 ≤0.1
9- Fatty acid methyl (FAME) and ethyl (FAEE) esters	- ∑ FAME + FAEE < 75 mg/kg (campaign 2012/13) - FAEE < 40 mg/kg (campaign 2013/14) - FAEE < 35 mg/kg (campaign 2014/15) - FAEE < 30 mg/kg (after 2015)								