

**CERTIFICATE OF ANALYSIS
COA**

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Product Name:	CO ₂ Total Extract
Product Use:	Raw materials for industry
Scientific Name:	<i>Achillea millefolium</i>
Country of origin:	Albania
Company Name:	Esencial®
INCI Name:	<i>Achillea millefolium</i> CO ₂ Total Extract

Lot #	TOT 191024
Batch #	191125-C
Manufacturing Date-	25.11.2019
Best Before Date-	25.11.2028

Part Used:	Flower
Extraction Method:	SCFE CO ₂
Quality:	100% Pure and Natural

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PROPERTIES	SPECIFICATIONS	RESULTS	METHOD
Appearance:	Dark brown	CONFORMS	Visual
Physical state	Solid	CONFORMS	Organoleptic
Odor:	Natural and fresh fragrance	CONFORMS	Organoleptic
Relative Density (g/ml):	-	1.220 at 20°C	ISO 279:1998 (E)
Solubility:	Soluble in lipophilic fluids such as essential oils and vegetable oils.	CONFORMS	
Avid Value:	-	56.26	ISO 124:1999 (E)
Flash Point:	-	> 130 °C	
Boiling point:	-	105 °C	ISO/TR 11018 (E)
Melting point :	-	60 °C	
Loss of drying:	≤5.0%		ISO 212:2007(E)
Residual Solvents:	no	CONFORMS	GC-FID
Total ashes:	-	2.3%	WHO
Shelf life:		9 years	
Storage:	Keep in a tightly closed container in a cool and dry place, protected from sunlight.		

Metabolic secondary	RESULTS	METHOD
Total phenolic compounds	3500 mg/gr extract	HPLC
Phenolic acid	780 mg/gr Extract	HPLC
Rozmarinic acid	180 mg/gr extract	HPLC
Total Flavonoids	2750 ng/gr extract	HPLC
Total Flavonols	900 mg/gr extract	HPLC
Centaureidin	350 mg/gr extract	HPLC
Methoxyquercetin	320 mg/gr extract	HPLC
Quercetin	45 mg/gr extract	HPLC
Total flavones	1850 mg/gr extract	HPLC
Luteolin-7-O-glucoside	650 mg/gr extract	HPLC
Apigenin	185 mg/gr Extract	HPLC

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COMPONENTS Range %

Identification	Conforms to reference standard	CONFORMS	GC-FID
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	<u>Volatile Compound</u> <u>Secondare metabolites</u>	<u>%</u>
1	a-Thujone	1.43
2	a-Pinene	2.21
3	Sabinene	6.70
4	1.8-Cineole	8.08
5	a-Phellandrene	1.39
6	p-Cymene	4.20
7	a-Terpinene	2.56
8	Terpinolene	1.26
9	Pinocarvone	1.84
10	Camphor	2.52
11	Linalool	2.90
12	Borneol	1.71
13	Geraniol	3.31
14	Dodecanol	1.69
15	Borenyl acetate	5.19
16	b-Caryophyllene	21.58
17	b-Pinene	7.10
18	Longipinene	1.95
19	Germancene	11.30
20	Cedrene	4.31
21	Humulene	2.37
22	Cadinene	2.66
23	Caryophyllene oxide	1.72

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MICROBIAL ANALYSIS	SPECIFICATIONS	RESULTS	METHOD
Bacterial Count			
<i>Staphylococcus aureus</i>	< 1000 CFU/g	CONFORMS	ISO 21149
<i>Escherichia coli</i>	< 1000 CFU/g	CONFORMS	
<i>Pseudomonas aeroginosae</i>	< 1000 CFU/g	CONFORMS	
Yeast and Mould			
<i>Candida Albans</i>	< 100 CFU/g	CONFORMS	ISO 16212
<i>Aspergillus fumigatus</i>	< 100 CFU/g	CONFORMS	

BaP	Limit 0.18 µg/kg	0,09 µg/kg	ELISSA
TOTAL PAHs (BaP, BaA, BbF, CHR)	Limit 0.2 µg/kg	0,05 µg/kg	ELISSA.
PESTICIDES	Limit 0.01 mg/kg	0,005 mg/kg	ELISSA
AFLATOXINS B1	Limit 2 µg/kg	1,02 µg/kg	ELISSA
TOTAL AFLATOXIN (B1, B2, G1, G2)	Limit 4 µg/kg	2,9 µg/kg	ELISSA

COMMENTS: This CO₂ total extract is a 100% pure and natural product. It does not contain any artificial ingredients or adulteration of any kind to the best of our knowledge. The analysis and statements herein constitute the most complete information available to Esencial®. This product is guaranteed by to Esencial® be of excellent quality.

DISCLAIMER: Please refer to all relevant technical information specific to the product before use. The information contained in this document is obtained from current and reliable sources Esencial® provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.

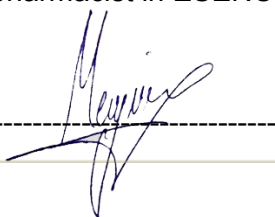
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Production pharmacist in ESENCIAL®

Biochemist in ESENCIAL®

Signature



Signature

