



CERTIFICATE OF ANALYSIS  
COA

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**Product Name:** CO<sub>2</sub> Total Extract

**Product Use:** Raw materials for industry

**Scientific Name:** *Echinacea purpurea*

**Country of origin:** Albania

**Company Name:** Esencial®

**CAS number:** 90028-20-9

**INCI Name:** *Echinacea purpurea* CO<sub>2</sub> Total Extract

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**Lot #** TOT 201014-1

**Batch #** 200408-C

**Manufacturing Date-** 08.04.2020

**Best Before Date-** 08.04.2029

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**Part Used:** Aerial part

**Quantity of plant main compounds**  
1. Chicoric acid- 23%  
2. Caftaric acid- 25%

**Extraction Method:** SCFE CO<sub>2</sub>

**Quality:** 100% Pure and Natural

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<b>PROPERTIES</b>	<b>SPECIFICATIONS</b>	<b>RESULTS</b>	<b>METHOD</b>
Appearance:	Dark brown	CONFORMS	Visual
Physical state	Solid	CONFORMS	Organoleptic
Odor:	Natural and fresh fragrance	CONFORMS	Organoleptic
Relative Density (g/ml):	-	1.150 at 20°C	ISO 279:1998 (E)
Solubility:	Soluble in lipophilic fluids such as essential oils and vegetable oils.	CONFORMS	
Avid Value:	-	64.28	ISO 124:1999 (E)
Flash Point:	-	> 120 °C	
Boiling point:	-	96 °C	ISO/TR 11018 (E)
Melting point :	-	63 °C	
Loss of drying:	≤5.0%	0.47 %	ISO 212:2007(E)
Residual Solvents:	no	CONFORMS	GC-FID
Total ashes:	-	1.0%	WHO
Shelf life:		9 years	
Storage:	Keep in tightly closed container in a cool and dry place, protected from sunlight. These are best stored in the refrigerator 2 - 10°C.		



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**COMPONENTS Range %**

**Identification**      Conforms to reference standard      **CONFORMS**      GC-FID

	<u>Compound</u>	<u>%</u>
1	Verbenone	6.27
2	Spathunelol	3.65
3	Caryophyllene oxide	1.95
4	Torinelol	2.76
5	Germacra-4- trien-1-ol	12.57
6	Farnesol	1.6
7	Oplopanone	1.25
8	β-Acoradienol	3.81
9	Hydroxymarsupellol	2.4
10	Octadecane	3.8
11	Farnesyl acetate	7.68
12	Platambin	2.56
13	Hexahydrofarnesyl acetone	2.12
14	Valerenic acid	9.09
15	Corymbolone	7.42
16	Izophytol	8.66
17	Methyl hexadecanoate	0.98
18	Ethyl hexadecanoate	4.1
19	Hexadecanoic acid	18.51
20	Nonacosane	5.24
21	Heptacosane	4.61
22	β- Sitosterol	5.93

**Identification**      Conforms to reference standard      **CONFORMS**      CE- capillary electrophoretic

1	Total Caffeic acid derivatives	41.3mg/gr
	Chicoric acid	36 mg/gr
	Cafftaric acid	5.3 mg/gr
2	Total Alkamides	0.97 mg/gr



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HEAVY METAL TESTS	SPECIFICATIONS	RESULTS	METHOD
Lead (Pb)	≤5.0 ppm	0.27 ppm	ISO 11212 Spectrofotometry
Cadmium (Cd)	≤1.0 ppm	0.02 ppm	
Arsenic (As)	≤1.5 ppm	0.03 ppm	
Mercury (Hg)	≤0.1 ppm	<0.05 ppm	

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

BaP	Limit 0.18 µg/kg	NOT DETECTED	Ph. Eur.
TOTAL PAHs (BaP, BaA, BbF, CHR)	Limit 0.2 µg/kg	NOT DETECTED	Ph. Eur.
PESTICIDES	Limit 0.01 mg/kg	NOT DETECTED	Ph. Eur.
AFLATOXINS B1	Limit 2 µg/kg	CONFORMS	Elisa
TOTAL AFLATOXIN ( B1, B2, G1, G2)	Limit 4 µg/kg	CONFORMS	Elisa



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### COMMENTS

This CO<sub>2</sub> 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, prior to 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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