



## Certificate of Analysis

### Borage Seed CO2-extract (organic)

Batch #. GE-861418

production: April 2017                      retest: April 2019  
raw material:                                      *Borago officinalis* - Seeds, dried, from organic farming  
country of origin of rawmaterial: China  
country of origin of product:                Germany  
D/E - ratio:                                        3,1 - 3,5 kg raw material yield 1 kg product.  
  
Product contains:                                0,1 % Rosemary Antioxidant Extract (organic)

### Sensory Check

| feature     | reference         | result |
|-------------|-------------------|--------|
| Appearance: | clear, yellow oil | meets  |

### Analytical Check

| feature                           | method                            | limits       | value unit   |
|-----------------------------------|-----------------------------------|--------------|--------------|
| Fatty acid composition:           |                                   |              |              |
| Palmitic Acid C16:0               | 21.156.03, GCFID                  | 10 - 15      | 10,9 %       |
| Palmitoleic Acid C16:1 w7         | 21.156.03, GCFID                  | n.s.         | 0,19 %       |
| Stearic Acid C18:0                | 21.156.03, GCFID                  | n.s.         | 5,2 %        |
| Oleic Acid C18:1 w9               | 21.156.03, GCFID                  | n.s.         | 18,3 %       |
| Vaccenic Acid C18:1 w7            | 21.156.03, GCFID                  | n.s.         | 1,9 %        |
| Linoleic Acid C18:2 w6            | 21.156.03, GCFID                  | 35 - 45      | 37,8 %       |
| gamma Linolenic Acid C18:3 w6     | 21.156.03, GCFID                  | 18 - 24      | 19,1 %       |
| alpha Linolenic acid C18:3 w3     | 21.156.03, GCFID                  | n.s.         | 0,15 %       |
| Arachidic Acid C20:0              | 21.156.03, GCFID                  | n.s.         | 0,11 %       |
| Gadoleic Acid C20:1 w9            | 21.156.03, GCFID                  | n.s.         | 4,0 %        |
| Behenic Acid C22:0                | 21.156.03, GCFID                  | n.s.         | 0,15 %       |
| Erucic Acid C22:1 w9              | 21.156.03, GCFID                  | < 5          | n.d. %       |
| Nervonic Acid C24:1 w9            | 21.156.03, GCFID                  | n.s.         | 2,3 %        |
| Fat numbers:                      |                                   |              |              |
| Unsaponifiables                   | 21.020.03, DGF                    | < 4          | 1,1 %        |
| Peroxide Value                    | 21.015.03, DGF, Wheeler           | < 15         | < 1 meqO2/kg |
| Acid value                        | 21.016.03, DGF                    | 5 - 10       | 6,5 mgKOH/g  |
| Saponification value              | 21.017.02, DGF                    | 160 - 210    | 191 mgKOH/g  |
| Ester value                       | = SV - AV                         | 150 - 200    | 185 mgKOH/g  |
| Sum of all Pyrrolizidin alkaloids | external analysis,<br>LC-MS/MS    | < 50         | n.d.* ppb    |
| Content of water                  | 21.220.01, Karl Fischer<br>method | < 0,5        | 0,23 %       |
| Refractive index (20°C)           | 21.080.03,<br>Abbe-Refractometer  | 1,473 -1,479 | 1,4755       |

n.s. = not specified                      n.d. = not detected



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| feature   | method                | limits        | value unit               |
|---|-----------------------|---------------|--------------------------|
| Density (20°C)  | 21.024.03, Pycnometer | 0,915 - 0,925 | 0,9186 g/cm <sup>3</sup> |
| Benzo(a)pyrene  | GCMS                  | < 0,002       | 0,0019 ppm               |
| Sum of benzo(a)pyrene,<br>benz(a)anthracene,<br>benzo(b)fluoranthene and chrysene | GCMS                  | < 0,010       | 0,009 ppm                |

n.s. = not specified

n.d. = not detected

\*No pyrrolizidin alkaloids were detected in the extract.

Storage conditions: Store in a cool, dry place! Recommendation: Storage under inert gas!

The product meets specifications no. 16.497.03/66.484.02; date of analysis: 2017.04.27  
This computerized CoA has digital signature validated by Nature's Gift Aromatherapy.

The data in this report of analysis have been determined carefully and to the best of our knowledge. Depending on transport and storage conditions the indicated data can be subject to certain changes which are outside of our influence. Hence the report has not the meaning of a guaranty in the legal sense and does not dispense the customer from making his own quality control before using the product.