



## PRODUCT SPECIFICATION

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Product Name</b>        | Borage oil                         |
| <b>Product Code Number</b> | 002                                |
| <b>Composition</b>         | 100% raw borage seed oil           |
| <b>INCI Name</b>           | <i>Borago Officinalis</i> Seed Oil |
| <b>CAS No.</b>             | 225234-12-8                        |
| <b>EINECS</b>              | 281-661-4                          |

### Description

100% raw borage seed oil is a triglyceride oil obtained from the seeds of *Borago Officinalis*, Boraginaceae. For use in cosmetics and personal care products.

### SPECIFICATIONS

| <b>Parameter</b>              | <b>Range</b>                 | <b>Method</b>   |
|-------------------------------|------------------------------|-----------------|
| Physical Appearance (20°C)    | Clear yellow liquid          |                 |
| Colour                        | 12 max                       | Gardner         |
| Odour                         | Characteristic               |                 |
| Refractive index @20°C        | 1.470 - 1.480                | Ph.Eur.2.2.6    |
| Specific Gravity @20°C        | 0.901 - 0.930                | Ph.Eur.2.2.5    |
| <b>Chemical</b>               |                              |                 |
| Iodine Value                  | 125 - 160                    | Ph. Eur. 2.5.4  |
| Saponification Value          | 170 - 215                    | Ph. Eur. 2.5.6  |
| Unsaponifiable matter         | <2.5 %                       | Ph. Eur. 2.5.7  |
| Moisture                      | 0.1 % max                    | Ph. Eur. 2.2.32 |
| Acid value                    | <4.0 mg KOH/g                | Ph. Eur. 2.5.1  |
| Peroxide value                | <10.0 meq O <sub>2</sub> /kg | Ph. Eur. 2.5.5  |
| Anisidine value               | < 20                         | Ph. Eur. 2.5.36 |
| <b>Fatty acid composition</b> |                              |                 |
| C16:0 Palmitic                | 7 - 14 %                     |                 |
| C16:1 Palmitoleic             | 0.1 - 2 %                    |                 |
| C18:0 Stearic                 | 2 - 6 %                      |                 |
| C18:1 Oleic                   | 12 - 22 %                    |                 |
| C18:2 Linoleic                | 30 - 48 %                    |                 |
| C18:3 Gamma Linolenic         | >18%                         |                 |
| C20:1 Eicosenoic              | 2 - 6 %                      |                 |
| C22:1 Erucic acid             | 1 - 4 %                      |                 |
| C24:1 Tetracosenic acid       | 1 - 2 %                      |                 |
| Gadoleic acid                 | <5 %                         |                 |
| <b>Heavy Metals</b>           |                              |                 |
| Arsenic                       | 0.1ppm max                   |                 |
| Cadmium                       | 0.1ppm max                   |                 |
| Lead                          | 0.1ppm max                   |                 |
| Mercury                       | 0.01ppm max                  |                 |



## PRODUCT SPECIFICATION

### Microbiology

|                          |            |
|--------------------------|------------|
| Total plate count        | <1000 Cfug |
| Aerobic plate count      | <1000 Cfug |
| Yeast/ mould plate count | <100 Cfug  |

### Contaminants

|  |                       |
|--|-----------------------|
| Pesticides                               | MRL                   |
| PAH                                      | <2 ppb Benzo(a)pyrene |
| Dioxins                                  | 0.75 pg/g             |
| Dioxins +DL-PCB's<br>(WHO-PCDDF-PCB-TEQ) | 1.5                   |

### Packaging

Sealed 25L HDPE containers; blanketed with inert (nitrogen) atmosphere.

### Storage

Store unopened in original containers in a cool, dry environment. Store partially used containers with a fully nitrogen flushed headspace.

### Shelf life

18 months in original unopened packaging.

### Allergens (Conform Annex IIIa DIR EC 2003/89 and subsequent amendments)

|                               | Yes/No |
|-------------------------------|--------|
| Celery                        | No     |
| Cereals containing gluten     | No     |
| Crustaceans                   | No     |
| Eggs                          | No     |
| Fish                          | No     |
| Lupine                        | No     |
| Milk (including lactose)      | No     |
| Molluscs                      | No     |
| Mustard                       | No     |
| Nuts                          | No     |
| Peanuts                       | No     |
| Sesame seeds                  | No     |
| Soybeans                      | No     |
| Sulphur dioxide and sulphites | No     |

Version: B  
Date Issued: 02 March 2017

This product contains no ingredients derived from animal tissue, it is therefore free from Bovine Spongiform Encephalopathy (BSE) and other transmissible spongiform encephalopathies. It is not derived from Genetically Modified Organisms and has undergone no animal testing.

The specification is offered in good faith, and is given to the best of our knowledge at the date of issue. No warranties or guarantees are offered or implied. Users should conduct their own tests to determine the suitability of the products for their own specific purposes.