

# TECHNICAL DATA SHEET (TDS)

Product Name	BORAGE SEED OIL
Botanical Name	Borago officinalis
CAS #	84012-16-8 ; 225234-12-8
EINECS #	281-661-4
INCI Name	Borago Officinalis (Borage) Seed Oil

Part Used	Seeds
Extraction Method	Cold Pressed
Quality	100% Pure and Natural

<u>PROPERTIES</u>	<u>SPECIFICATIONS</u>
Appearance	Pale yellow to greenish yellow colored liquid
Odour	Characteristic mild, pleasant odour
Refractive Index	1.473 - 1.479 @ 20°C
Specific Gravity (g/mL)	0.910 - 0.935 @ 20°C
Saponification Value (mgKOH/g)	185 – 195
Peroxide Value (meq O <sub>2</sub> /kg)	Less than 8.0
Iodine Value (g I <sub>2</sub> /100g)	125 -160
Free Fatty Acids (% oleic)	Less than 2.0
Acid Value (mgKOH/g)	Less than 4.0
Solubility	Soluble in cosmetic esters and fixed oils; Insoluble in water

## FATTY ACID COMPOSITION:

<u>FATTY ACID</u>	<u>C-CHAIN</u>	<u>SPECIFICATIONS (%)</u>
Palmitic Acid	<u>C16:0</u>	<u>8.00 – 13.00</u>
Palmitoleic Acid	<u>C16:1 (n-7)</u>	<u>Maximum 0.60</u>
Stearic Acid	<u>C18:0</u>	<u>2.00 – 6.00</u>
Oleic Acid	<u>C18:1 (n-9)</u>	<u>14.00 – 20.00</u>
Linoleic Acid	<u>C18:2 (n-6)</u>	<u>34.00 – 54.00</u>
Alpha-Linolenic Acid	<u>C18:3 (n-3)</u>	<u>Maximum 0.50</u>
Gamma-Linolenic Acid	<u>C18:3 (n-6)</u>	<u>20.00 – 25.00</u>
11-Eicosenoic Acid	<u>C20:1 (n-9)</u>	<u>3.00 – 5.00</u>
Erucic Acid	<u>C22:1 (n-9)</u>	<u>1.00 – 3.00</u>
Nervonic Acid	<u>C24:1 (n-9)</u>	<u>1.00 – 2.50</u>

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MICROBIAL ANALYSIS	<u>SPECIFICATIONS</u>	<u>STANDARDS</u>
Aerobic Mesophilic Bacterial Count	< 100 CFU/g	ISO 21149
Yeast and Mould	< 10 CFU/g	ISO 16212
Candida albicans	ABSENT / 1g	ISO 18416
Escherichia coli	ABSENT / 1g	ISO 21150
Pseudomonas aeruginosa	ABSENT / 1g	ISO 22717
Staphylococcus aureus	ABSENT / 1g	ISO 22718

<u>HEAVY METAL TESTS</u>	<u>SPECIFICATIONS</u>	<u>STANDARDS</u>
Lead: Pb (mg/kg or ppm)	< 10 ppm	na
Arsenic: As (mg/kg or ppm)	< 2 ppm	na
Mercury: Hg (mg/kg or ppm)	< 1 ppm	na

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A-004, New Highway Park E-3 CHSL, Kandivali (E), Mumbai 400 101.  
Tel: +91 2870 1974 | 750689 1975 | Email: [essentialoilsofindia@gmail.com](mailto:essentialoilsofindia@gmail.com) | [www.essentialoilsofindia.com](http://www.essentialoilsofindia.com)