

### TECHNICAL DATA SHEET (TDS)

|                |                           |
|----------------|---------------------------|
| Product Name   | MORINGA OIL               |
| Botanical Name | Moringa oleifera          |
| CAS #          | 93165-54-9                |
| EINECS #       | 296-941-1                 |
| INCI Name      | Moringa Oleifera Seed Oil |

|                   |                       |
|-------------------|-----------------------|
| Part Used         | Seed                  |
| Extraction Method | Cold Pressed          |
| Quality           | 100% Pure and Natural |

| <u>PROPERTIES</u>                      | <u>SPECIFICATIONS</u>   |
|--|---|
| Appearance                             | Pale yellow to greenish golden colored liquid                 |
| Odour                                  | Characteristic mild, pleasant odour                           |
| Refractive Index                       | 1.460 - 1.480 @ 20°C  |
| Specific Gravity (g/mL)                | 0.910 - 0.920 @ 20°C  |
| Saponification Value (mgKOH/g)         | 180 - 200   |
| Peroxide Value (meqO <sub>2</sub> /kg) | Max 10.0  |
| Iodine Value (g I <sub>2</sub> /100g)  | 80 - 106  |
| Acid Value (mgKOH/g)                   | Max 2.0   |
| Moisture                               | Max 0.1   |
| Solubility                             | Soluble in cosmetic esters and fixed oils; Insoluble in water |

### FREE ACID COMPOSITION

| FATTY ACID       | C-CHAIN     | SPECIFICATIONS (%) |
|------------------|-------------|--------------------|
| Palmitic Acid    | C16:0       | 5.00 – 13.00       |
| Palmitoleic Acid | C16:1 (n-7) | Maximum 3.5        |
| Stearic Acid     | C18:0       | 2.00 – 6.00        |
| Oleic Acid       | C18:1 (n-9) | 60.00 – 85.00      |
| Linoleic Acid    | C18:2 (n-6) | 0.1- 14.00         |
| Arachidic Acid   | C20:0       | Maximum 2.0        |
| Eicosenoic acid  | C20:1 (n-9) | Maximum 3.0        |
| Behenic Acid     | C22:0       | Maximum 4.0        |

| 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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