## FINISHED PRODUCT SPECIFICATION

| PRODUCT NAME | ZEAXANTHIN 5% POWDER | SPEC:FPS/B01/0345-01       |
|--------------|----------------------|----------------------------|
|              |                      | Effective Date: 25-01-2022 |

| Botanical/ Scientific name | Tagetes erecta | Plant part used    | Petals of Marigold |
|----------------------------|----------------|--------------------|--------------------|
| Standardization            | Zeaxanthin     | Production Method  | Drying             |
| Shelf Life                 | 3 years        | Extraction Solvent | Ethanol            |

| SL No   | Protocol             | Test Parameter                | Test Limit                   |  |  |  |
|---------|----------------------|-------------------------------|------------------------------|--|--|--|
| Physica | Physical             |                               |                              |  |  |  |
| 01      | Organoleptic         | Description                   | Orange to red color* powder  |  |  |  |
| 02      | TM/0345              | Identification                | To Comply by HPLC            |  |  |  |
| 03      | USP                  | Solubility                    | Partially soluble in alcohol |  |  |  |
| 04      | USP <921>            | Moisture content              | Not more than 5.0%w/w        |  |  |  |
| 05      | USP <281>            | Ash content                   | Not more than 5.0%w/w        |  |  |  |
| 06      | USP <616>            | Untapped bulk density         | Between 0.40 to 0.70g/ml     |  |  |  |
| 07      | USP <616>            | Tapped bulk density           | Between 0.50 to 0.80g/ml     |  |  |  |
| 08      | USP <786>            | Particle size                 | 100% passing through 40 mesh |  |  |  |
| Chemi   | Chemical             |                               |                              |  |  |  |
| 09      | TM /0345             | Content of Zeaxanthin by HPLC | Not less than 5.0% w/w       |  |  |  |
| Heavy   | Heavy Metal          |                               |                              |  |  |  |
|         | USP <233>Procedure 1 | Lead                          | Not more than 3.0 ppm        |  |  |  |
| 10      | USP <233>Procedure 1 | Arsenic                       | Not more than 1.0 ppm        |  |  |  |
| 10      | USP <233>Procedure 1 | Cadmium                       | Not more than 0.5 ppm        |  |  |  |
|         | USP <233>Procedure 1 | Mercury                       | Not more than 0.1 ppm        |  |  |  |
| Microb  | Microbiological      |                               |                              |  |  |  |
| 11      | USP <2021>           | Total plate count             | Not more than 3000cfu/g      |  |  |  |
|         | USP <2021>           | Total yeast and mold count    | Not more than 100cfu/g       |  |  |  |
|         | USP <2022>           | Escherichia coli              | Absent / 10g                 |  |  |  |
|         | USP <2022>           | Salmonella spp.               | Absent / 10g                 |  |  |  |
|         | USP <2021>           | Coliforms                     | Absent / 10g                 |  |  |  |
|         | USP <2022>           | Staphylococcus aureus         | Absent / 10g                 |  |  |  |
|         | USP <62>             | Pseudomonas aeruginosa        | Absent / 10g                 |  |  |  |

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| ADDITIONAL INFORMATION |   |  |
|------------------------|---|--|
| Sanitizing treatment   | Non –irradiated and not treated with ETO  |  |
| GMO Status             | GMO free  |  |
| Standard Packing       | 25 Kg in single HDPE container.   |  |
| Certifications         | ISO 22000:2005, ISO 9001:2015, GMP, HALAL certified   |  |
| Storage condition      | Store in a cool and dry place away from sunlight and heat. The preferred storage is below $30^{\circ}$ C. |  |

<sup>\*</sup> The product is of herbal origin. There may be minor color difference because of the geographical and seasonal variations of the plant material.

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