



KEB[®]
Biotechnology
祖辉生物

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R# 14201
RI 0415
7-13-22

Certificate of Analysis

Product Name: Marigold Flower Extract (Lutein Beadlet 5%)

Batch No.: TEW210701

Country of Origin: P. R. China

Botanical Source: *Tagetes erecta* L.

Plant Parts: Flowers

Excipient: Maltodextrin & Microcrystalline Cellulose

Excipient Ratio: 91%

Manufacture Date: Jun. 05, 2021

Expired Date: Jun. 04, 2024

Non-Irradiated/Non-ETO/Treat by Heat Only

Solvents: Ethanol and Water

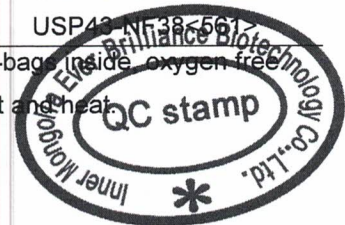
Analysis Item	Specification	Result	Method
Lutein	≥ 5.0%	5.31%	HPLC
Zeaxanthin	Report	0.42%	HPLC
Appearance	Orange yellow beadlet	Complies	Visual
Odor	Characteristic	Complies	Organoleptic
Identification	Positive	Complies	UV/HPLC
Powder Size	≥ 95% through 20 mesh	Complies	USP #20 Sieve
Bulk Density	0.55 – 0.85 g/mL	0.75 g/mL	USP43-NF38<616>
Tapped Density	0.65 – 0.95 g/mL	0.84 g/mL	USP43-NF38<616>
Loss on Drying	≤ 8.0%	7.32%	USP43-NF38<731>
Residue on Ignition	≤ 2.0%	0.66%	USP43-NF38<281>
Residual Ethanol	≤ 5,000 µg/g	31 µg/g	USP43-NF38<467>
Pesticide Residues	USP<561>	Complies	USP43-NF38<561>
Total Heavy Metals	≤ 10 µg/g	Complies	USP43-NF38<231>
Arsenic (As)	≤ 1.0 µg/g	ND (< 0.1 µg/g)	ICP-MS
Cadmium (Cd)	≤ 0.5 µg/g	ND (< 0.01 µg/g)	ICP-MS
Lead (Pb)	≤ 1.0 µg/g	ND (< 0.1 µg/g)	ICP-MS
Mercury (Hg)	≤ 0.5 µg/g	ND (< 0.01 µg/g)	ICP-MS
Total Plate Count	≤ 1,000 cfu/g	< 10 cfu/g	USP43-NF38<2021>
Molds and Yeasts	≤ 100 cfu/g	< 10 cfu/g	USP43-NF38<2021>
Total Coliforms	< 10 cfu/g	< 10 cfu/g	USP43-NF38<2021>
Salmonella	Absence	Complies	USP43-NF38<2022>
E. Coli	Absence	Complies	USP43-NF38<2022>
Staphylococcus aureus	Absence	Complies	USP43-NF38<2022>
Aflatoxins	≤ 20 ppb	ND	USP43-NF38<561>

Packing: 25 kg/drum, packing in aluminum foil bags and a sealed plastic-bag inside, oxygen free

Storage: Store in a well-closed container away from moisture, direct light and heat

Expired date: Re-test after three years from the manufacturing date.

Conclusion: Conform to Specification.



Quality Assurance officer: 李永强 Analyst: 鞠向慧