



西安绿泉科技有限公司

XI'AN GREEN SPRING TECHNOLOGY CO., LTD.

Certificate of Analysis

Product Name: Milk Thistle Seed Extract (Silybin 90% by HPLC)

Batch No.: 220913

Country of Origin: P. R. China

Botanical Source: *Silybum marianum* (L.) Gaertn

Plant Parts: Seeds

Manufacture Date: Sep. 13, 2022

Expired Date: Sep. 12, 2025

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

Solvents: Acetone, Ethanol, Hexane

Analysis Item	Specification	Result	Method
Silymarin	≥ 90.0%	93.75%	UV-Vis
	--	92.40%	HPLC
Silybin & Isosilybin	--	91.51%	HPLC
Silybin	≥ 90.0%	90.16%	HPLC
Appearance	Almost white powder	Complies	Visual
Odor	Characteristic	Complies	Organoleptic
Identification	Positive	Complies	TLC
Powder Size	≥ 95% through 80 mesh	Complies	USP #80 Sieve
Bulk Density	0.30 – 0.60 g/ml	0.37 g/ml	USP-NF<616>
Loss on Drying	≤ 5.0%	0.99%	USP-NF<731>
Residue on Ignition	≤ 0.5%	0.17%	USP-NF<281>
Residual Acetone	≤ 5,000 µg/g	4.6x10 ³ µg/g	USP-NF<467>
Residual Ethanol	≤ 5,000 µg/g	2.4x10 ³ µg/g	USP-NF<467>
Residual Hexane	≤ 290 µg/g	3 µg/g	USP-NF<467>
Pesticide Residues	USP<561>	Complies	USP-NF<561>
Aflatoxin B1	≤ 2 µg/kg	ND(< 0.5 µg/kg)	USP-NF<561>
Aflatoxins (B1,B2,G1,G2)	≤ 4 µg/kg	ND(< 0.5 µg/kg)	USP-NF<561>
Total Heavy Metals	≤ 10 µg/g	Complies	USP-NF<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)	≤ 0.1 µg/g	ND (< 0.01 µg/g)	ICP-MS
Total Plate Count	≤ 1,000 cfu/g	< 10 cfu/g	USP-NF<2021>
Molds and Yeasts	≤ 100 cfu/g	< 10 cfu/g	USP-NF<2021>
<i>Salmonella</i>	Absence/25g	Complies	USP-NF<2022>
<i>E. Coli</i>	Absence/ 10g	Complies	USP-NF<2022>
<i>Staphylococcus aureus</i>	Absence/ 10g	Complies	USP-NF<2022>

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

Conclusion: Conform to Specification.

Quality Assurance:

