



MTC Industries, Inc.

Nutra**ce**uticals, Food**ce**uticals, and Pharma**ce**uticals

CERTIFICATE OF ANALYSIS

PRODUCT NAME	Caffeine Anhydrous	BATCH NO.	2012405017
MFG. DATE	05/12/2024	EXPIRY DATE	05/11/2029

ITEM	SPECIFICATION	RESULT	METHOD
Characters	White or nearly white, crystalline powder or filamentous crystals.	Complies	FCC12
Solubility	Sparingly soluble in water, freely soluble in boiling water, slightly soluble in ethanol (96%). It dissolves in concentrated solutions of alkali benzoates or salicylates. It sublimates readily.	Complies	BP2023, EP11.0
Identifications	A: The sample spectrum complies with that of the reference standard spectrum. B: The retention time of the caffeine peak of the sample solution corresponds to that of the standard solution	Complies	USP2023
Related Substances	Any other impurity \leq 0.5times the area of solution(a) (0.10%)	0.02%	BP2023, EP11.0
	Total Impurities \leq 0.5times the area of solution(a) (0.10%)	0.02%	BP2023, EP11.0
Appearance of solution	Solution S is clear and colorless	Complies	BP2023, EP11.0
Melting Point	235.0-237.5°C	Complies	FCC12
Sulfates	\leq 500ppm	Complies	BP2023, EP11.0
Water Determination	\leq 0.5%	0.06%	USP<2023>
Sulphated Ash	\leq 0.1%	0.04%	BP2023, EP11.0
Organic impurities	Individual impurity \leq 0.1%	0.02%	USP<2023>
	Total Impurities \leq 0.1%	0.02%	USP<2023>
Assay	99.0%-101.0%	99.9%	USP<2023>
Other alkaloids	Compliance	Complies	FCC
Easy carbonization	Compliance	Complies	FCC
Heavy metal	\leq 10ppm	Complies	CP
Lead	\leq 0.5ppm	Complies	CP
Arsenic	\leq 1.0ppm	Complies	CP
Mercury	\leq 0.1ppm	Complies	CP



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Cadmium	≤0.5ppm	Complies	CP
Total aerobic bacteria	≤800cfu / g	Complies	CP
Total mold and yeast	≤80cfu / g	Complies	CP
Escherichia coli	Not Detected	Not detected	CP
Coliforms	<10 cfu/g	Not Detected	CP
S. Aureus	Negative/25g	Complies	CP
Total Plate Count	≤1,000cfu/g	Complies	CP
Salmonella	Not Detected	Not Detected	CP
Mesh Size	95% through 40 mesh	Complies	
Bulk Density	0.35-0.5 kg/l	Complies	
Tapped Density	0.5-0.8 kg/l	Complies	

CONCLUSION: Conforms with specification.

PACKAGING AND STORAGE: Keep in tightly closed container, Store At Room Temperature, Avoid Moisture and Direct Sunlight.

The information contained herein is to the best of our knowledge correct. The data outlined and the statements made are intended only as source of information. No warranties expressed or implied are made on the basis of this information. It is suggested that you evaluate the product on a laboratory scale prior to use in a finished product. The information contained herein should not be construed as permission for violation of patent rights.

QA Prepared by: Zihan ye **QC Approved by:** [Signature] **Date:** 05/30/2024

