



Botanic Planet

Your Supplier for Essential Oils & Botanicals Canada Inc.

CERTIFICATE OF PRODUCT ANALYSIS

No. REC-ZL-G6102(08)

| Product: <u>Caffeine (Anhydrous)</u> | Batch No. : <u>1031909014</u> | Quantity: <u>1000 kg</u> |
|--|---|--------------------------------|
| Analysis Standard: <u>BP2018, EP9.0, USP41, FCC11</u> | Analysis Date: <u>2019.09.04</u> | Report Date: <u>2019.09.06</u> |
| Manu. Date: <u>2019.09</u> | Retest Date: <u>2023.08</u> | |
| Analysis Contents | Analysis Standards | Analysis Results |
| 【Characters】 | | |
| Appearance | White crystalline powder or silky, white crystals | White crystalline powder |
| 【Identification】 (USP/FCC) | | |
| A. Infrared Absorption | Conforms to the USP Caffeine RS | Pass |
| B. The retention time of caffeine peak | Corresponds to the Standard preparation obtained in the Assay | Pass |
| 【Tests】 | | |
| Appearance of solution (BP/EP) | Clear, colourless | Pass |
| Sulphates (BP/EP) | ≤500ppm | <500ppm |
| Related substances (BP/EP) | | |
| -Each impurity A, B, C, D, E, F | ≤0.10% | <0.10% |
| -Unspecified impurities | ≤0.10% | <0.10% |
| -Total impurities | ≤0.10% | <0.10% |
| Acidity (BP/EP) | Not more than 0.2ml of 0.01M sodium hydroxide | <0.2ml |
| Organic impurities (USP) | | |
| -Individual impurities | ≤0.1% | <0.1% |
| -Total impurities | ≤0.1% | <0.1% |
| Lead (FCC) | ≤1mg/kg | <1mg/kg |
| Other Alkaloids (FCC) | No precipitate is formed | Pass |
| Melting Range (FCC) | 235~237.5 °C | 236.0~236.9°C |
| Readily Carbonizable Substances (FCC) | Passes Test | Pass |
| Loss on Drying (BP/EP) | ≤0.5% | 0.07% |
| Residue on ignition (BP/EP) | ≤0.1% | 0.03% |
| 【Assay】 (USP) | 98.5%~101.0% | 99.7% |
| Conclusion: The above product conforms to BP2018, EP9.0, USP41, FCC11 requirement on Caffeine | | |



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