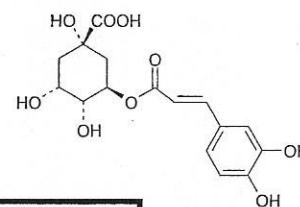




INDOFINE Chemical Company, Inc.

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HPLC

Lot No.: 14112407

CHLOROGENIC ACID

024991S

IDENTIFICATION

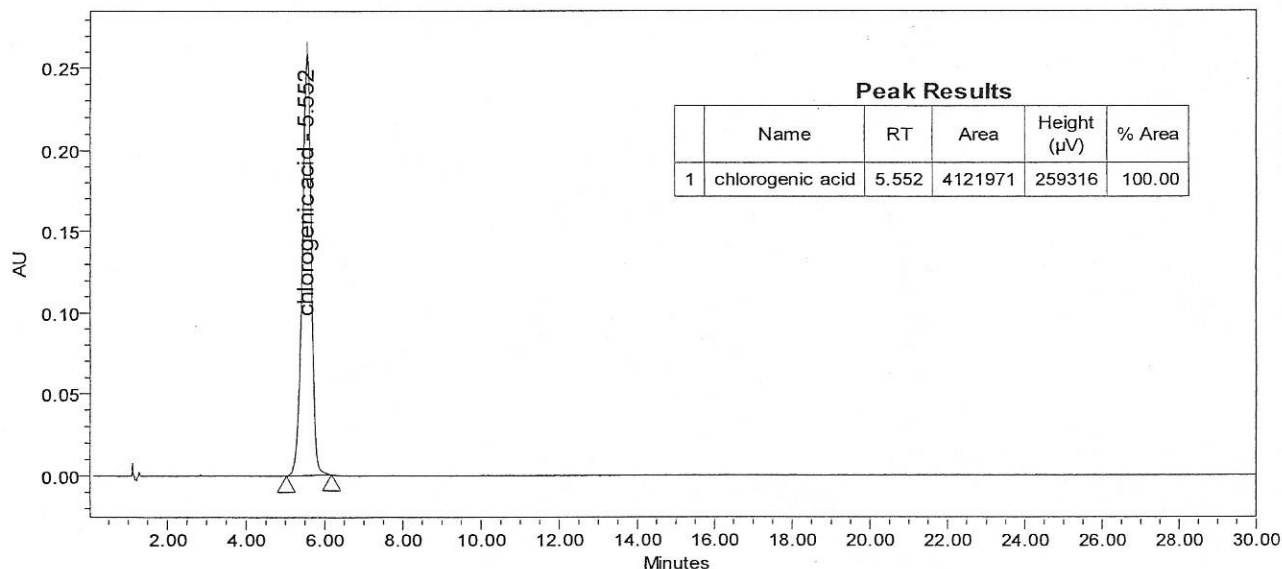
| | |
|-------------------|------------------------------------------------|
| CAS number | [327-97-9] |
| Synonym name | 3-caffeoylquinic acid |
| Chemical family | Phenolic acids and derivatives |
| Molecular formula | C ₁₆ H ₁₈ O ₉ |
| Molecular weight | 354.31 |

CERTIFICATE OF ANALYSIS

| | |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Appearance | White powder |
| Thin layer chromatography | support Silicagel solvent Ethyl acetate/formic acid/acetic acid/water (100/11/11/27, V/V/V) detection U.V. |
| Moisture | 0.7 % |
| Residual solvents | <0.5% |
| [α] _D | -39° c=0.1 in methanol |
| Absorption maxima | 236sh, 245, 300sh, 329 nm in methanol |
| Storage | Store at room temperature in a dry and dark place. Place in a desiccator under vacuum before use. Unstable in solution, decomposed by light. |

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

| | |
|----------------|--------------------------------------------------|
| Column | Nova pak C18® (3.9 x 150 mm), particle size 4 μm |
| Solvent | Water + 5% acetic acid/ Methanol (95/5, V/V) |
| Flow rate | 1ml/mn |
| Detector | UV visible 327 nm |
| Sample solvent | Methanol |



Assay by an HPLC method.

| | |
|-------------------------|------------|
| Date of last QC-recheck | March 2014 |
| Date of retest | March 2018 |

The values given on the 'Certificate of Analysis' are the results determined at the time of analysis.