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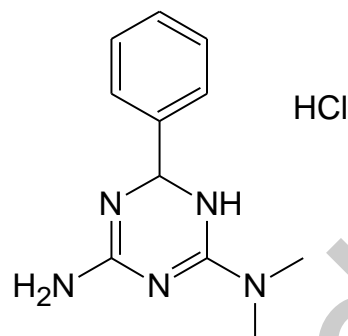
The results of the tests, calibrations and/or measurements included in this document are traceable to Australia/national standards.  
NATA is a signatory to the APLAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of reference materials certificates.



Our Formula. Your Success.

## Reference Material Product Information Sheet

Epichem's Quality System conforms to ISO9001:2015 as certified by ECAAS Pty Ltd - Certification number 616061.



<b>Name</b>	<i>N</i> <sup>2</sup> , <i>N</i> <sup>2</sup> -dimethyl-6-phenyl-1,6-dihydro-1,3,5-triazine-2,4-diamine hydrochloride
<b>Synonym(s)</b>	3,6-dihydro- <i>N</i> <sup>2</sup> , <i>N</i> <sup>2</sup> -dimethyl-6-phenyl-1,3,5-triazine-2,4-diamine hydrochloride (1:1)
<b>Epichem Item #</b>	EPL-AA230 Batch 1
<b>CAS #</b>	352211-02-0
<b>Molecular Formula</b>	C <sub>11</sub> H <sub>15</sub> N <sub>5</sub> .HCl
<b>Molecular Weight</b>	253.74 g/mol
<b>Appearance</b>	White powder
<b>Melting Point</b>	235.9-241.8°C
<b>Combustion Analysis</b>	Required (%): C:52.1; H:6.4; N:27.6. Found (%): C:52.1; H:6.2; N; 27.4.
<b>Purity*</b>	99.9%
<b>Date of Manufacture</b>	19 February 2019
<b>Storage Requirements</b>	Protect from heat, light and moisture.
<b>Special Precautions</b>	<b>This compound is for laboratory use only. Its toxicological properties may not have been fully established. It should be handled only by suitably qualified personnel.</b>
<b>Intended Use</b>	This compound is suitable for the identification of impurities and degradants in pharmaceutical materials. The purity assay is considered as relative contribution.
<b>Date of Shipment</b>	TBA This certificate is valid for one year from the date of shipment provided the substance is unopened and stored under the recommended conditions.
<b>Retest Date</b>	TBA (Proper Storage and Handling Required)

\* NATA accreditation does not cover the performance of this service

EPL-AA230 Batch 1

Epichem Pty Ltd, Suite 5, 3 Brodie-Hall Drive, Bentley WA 6102, Australia  
Tel + 61 (0)8 6167 5200 Fax + 61 (0)8 6167 5201 www.epichem.com.au ABN 80 106 769 902

## I. Identity

The identity of this product was established using the following analyses:

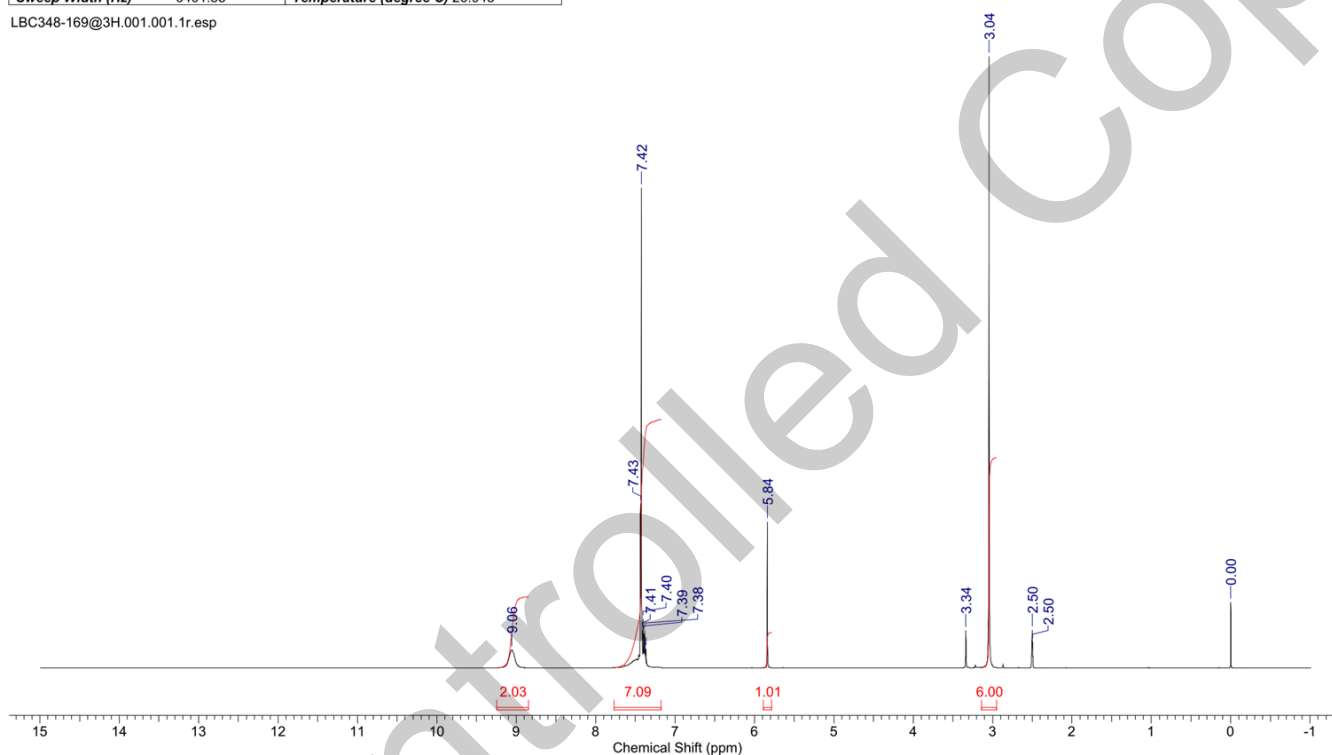
### Ia. <sup>1</sup>H NMR Spectrum

Conditions: 400 MHz, DMSO-d<sub>6</sub>

<sup>1</sup>H NMR spectrum consistent with chemical structure.

Acquisition Time (sec)	3.7547	Comment	LBC348-169@3H 1H DMSO (E:\data\external\epichem) cygoh 7		
Date	18 Feb 2019 17:23:12	Date Stamp	18 Feb 2019 17:23:12		
File Name	\naphthalene\company\NMR files\LBC348\LBC348-169@3H1\pdata\11r		Frequency (MHz)	400.13	
Nucleus	1H	Number of Transients	8	Origin	spect
Owner	nmr	Points Count	32768	Original Points Count	24038
SW(cyclical) (Hz)	6402.05	Solvent	DMSO-d6	Pulse Sequence	zg
Sweep Width (Hz)	6401.85	Temperature (degree C)	26.945	Receiver Gain	90.50
				Spectrum Offset (Hz)	2798.1890
				Spectrum Type	STANDARD

LBC348-169@3H.001.001.1r.esp



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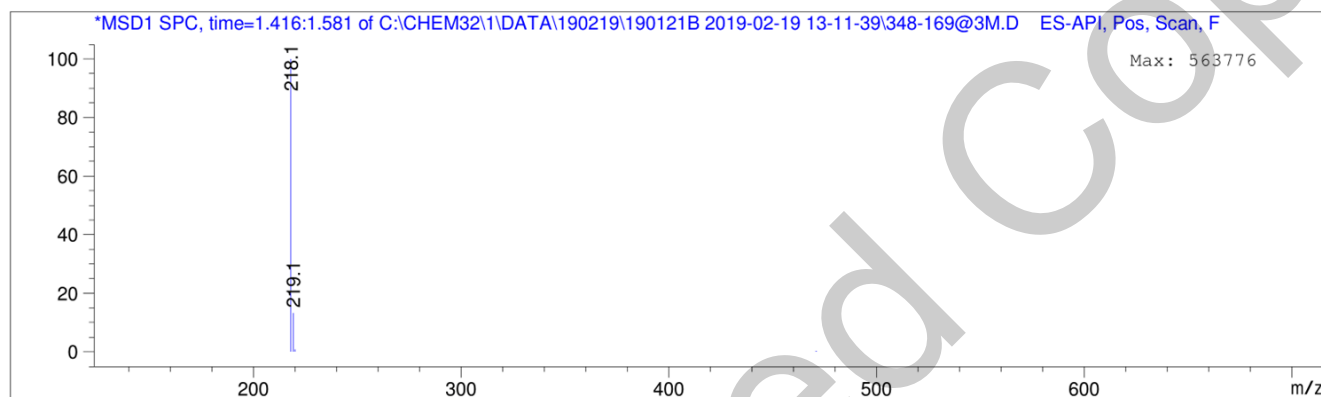
ABN 80 106 769 902

## Ib. Mass Spectrum

The mass spectrum of this material was analysed by Liquid Chromatography Mass Spectroscopy (LCMS) using in-house EM005.WI08.

Method: ACN/water gradient (+ 0.1% formic acid).  
ZORBAX SB-C8, 4.6 x 30 mm, 3.5 micron.

Retention Time (MS)	MS Area	Mol. Weight or Ion
1.479	8992092	219.10 I 218.10 I



Theoretical value: 218.1 [M-Cl]<sup>+</sup>.

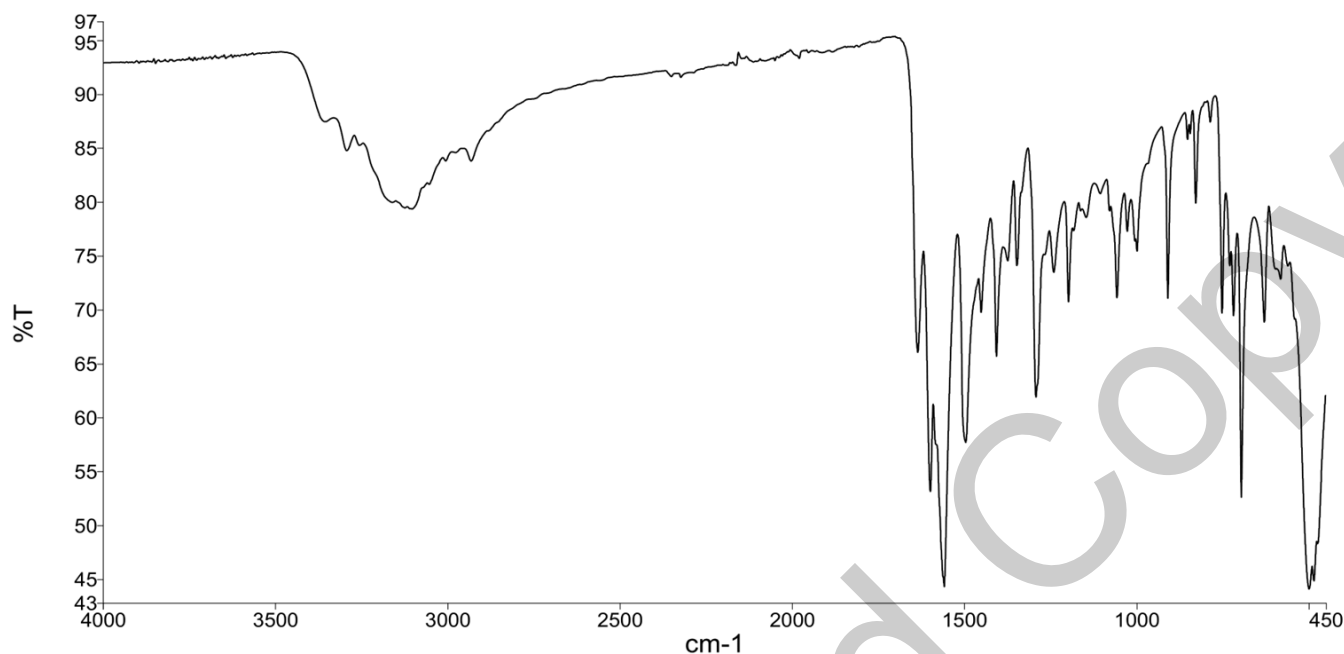
The signal of the Mass Spectrum is consistent with the theoretical value and its interpretation is consistent with the structural formula.

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### Ic. IR Spectrum

The infra-red spectrum of this material was analysed by Fourier-Transform Infrared Spectroscopy (FTIR) using in-house EM005.WI09.



The interpretation of the signals of the Fourier-Transform Infrared Spectrum is consistent with the structural formula.

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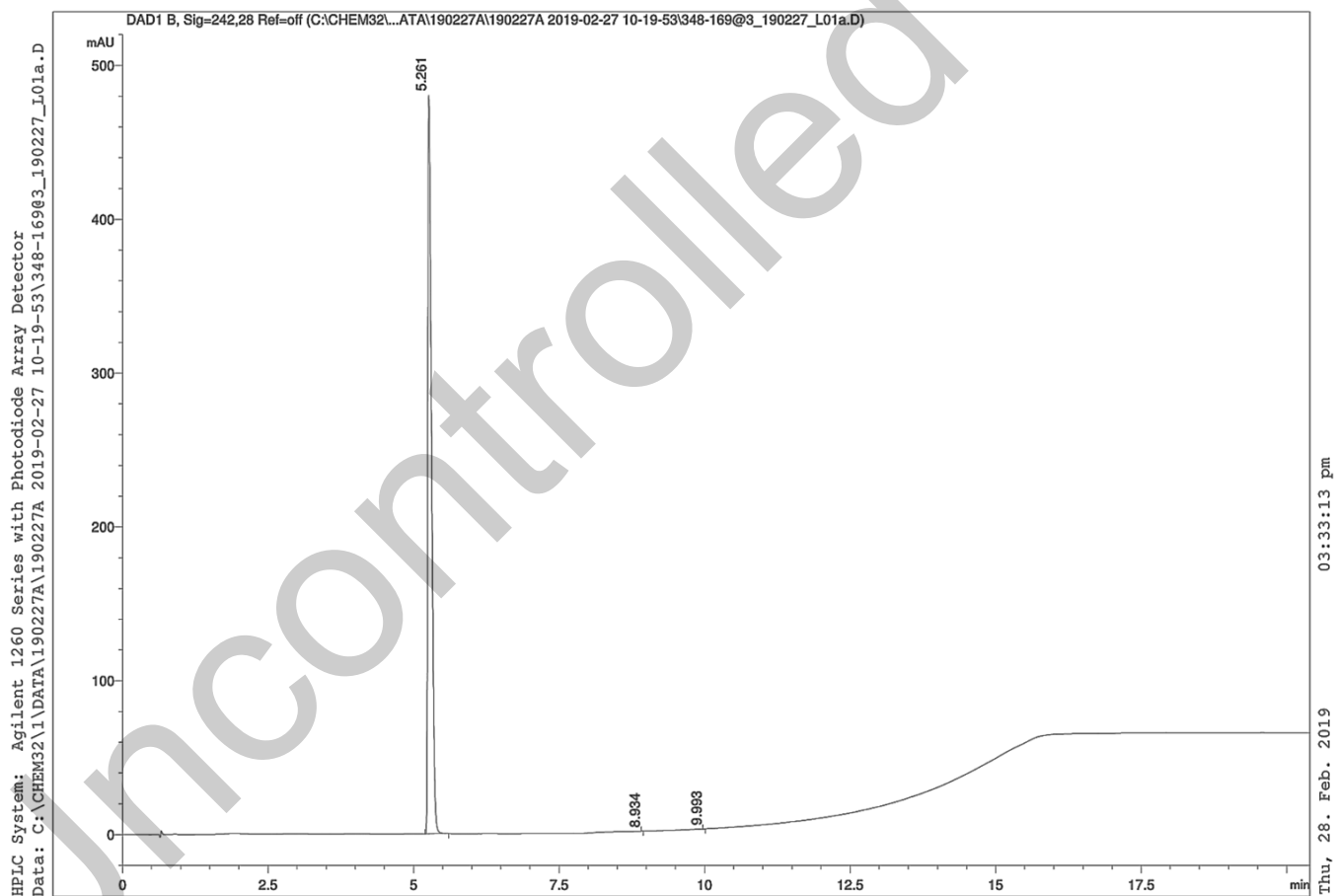
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## II. Purity

The purity of this material was analysed by high performance liquid chromatography (HPLC) using in-house EM005.WI07.

### HPLC Conditions:

Column	Conditions				Detector	Injector
Agilent Poroshell 120 EC-C18  4.6 x 50mm  2.7 micron	25°C				DAD 242nm	Auto 1.0 µL 0.80 mg/mL 100% acetonitrile
	Time (min)	% Line A (Water + 0.1% (v/v) TFA)	% Line B (Acetonitrile + 0.1% (v/v) TFA)	Flow rate (mL/min)		
	0.00	95	5	1.0		
	6.50	82	18	1.0		
	14.20	5	95	1.0		
	19.20	5	95	1.0		
	20.20	95	5	1.0		
	23.20	95	5	1.0		



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### Area Percent Report – Sorted by Signal

Peak Number	Retention Time (rounded)	Area	Area % (rounded)
1	5.26	2167.26	100.00
2	8.93	0.02	0.00
3	9.99	0.05	0.00
Totals			100 (rounded)

For the calculation the system peaks were ignored. The content of the analyte was determined as a ratio of the peak area of the analyte and the cumulative areas of the purities, added up to 100%.

#### Results:

Average 100.0% (average of 10 duplicate analyses)

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### III. Water Content

Method: Karl-Fischer titration using in-house EM005.WI04.

**Results:**

Average 0.1%

### IV. Ash Content

Method: BP2019 Appendix XI J Method II

**Result:**

Contains <0.1% ash.

### V. Residual Solvents

Method: <sup>1</sup>HNMR

**Result:**

No significant impurities detected by <sup>1</sup>H NMR analysis.

### VI. Final Result

Chromatographic purity (HPLC)	100.0%
Water content	0.1%
Ash content	<0.1%
Residual solvents	<0.1%
Purity*	99.9%

This purity is assessed to be 99.9%.

Product Reviewed By:

Product Released By:

John Moursounidis, PhD  
Head of Reference Standards

Karen Breese  
Head of Fine Chemicals and Technical Services

Release Date: 24 April 2019

\*NATA accreditation does not cover the performance of this service.

The calculation of the purity follows the formula:

$$\text{Purity(\%)} = \frac{((\text{Chromatographicpurity[HPLC]}) \times (100 - (\text{watercontent} + \text{ashcontent} + \text{volatilecontents})))}{100}$$

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