



# INDOFINE Chemical Company, Inc.

121 Stryker Lane, Bldg. 30, Suite 1 • Hillsborough, NJ 08844 • U.S.A.

Phone: (908) 359-6778 • FAX: (908) 359-1179

website: [www.indofinechemical.com](http://www.indofinechemical.com)

e-mail: [chemical@indofinechemical.com](mailto:chemical@indofinechemical.com)

## CERTIFICATE OF ANALYSIS

Catalog Number: 22-414

Product Name: **2,4-DICHLOROQUINOLINE**

CAS Number: [703-61-7]

Lot Number: 1611735

Chemical Formula: 198.05

Molecular Weight: C<sub>9</sub>H<sub>5</sub>Cl<sub>2</sub>N

Appearance: Pale yellow powder

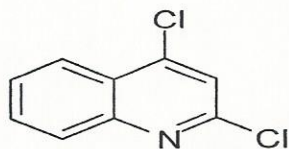
Solubility: Soluble in Methanol

Melting Point:: 65-67°C

NMR Spectrum: Enclosed (conforms to the structure)

Storage: Store in a cool, dry place

Purity(HPLC): 98.29%





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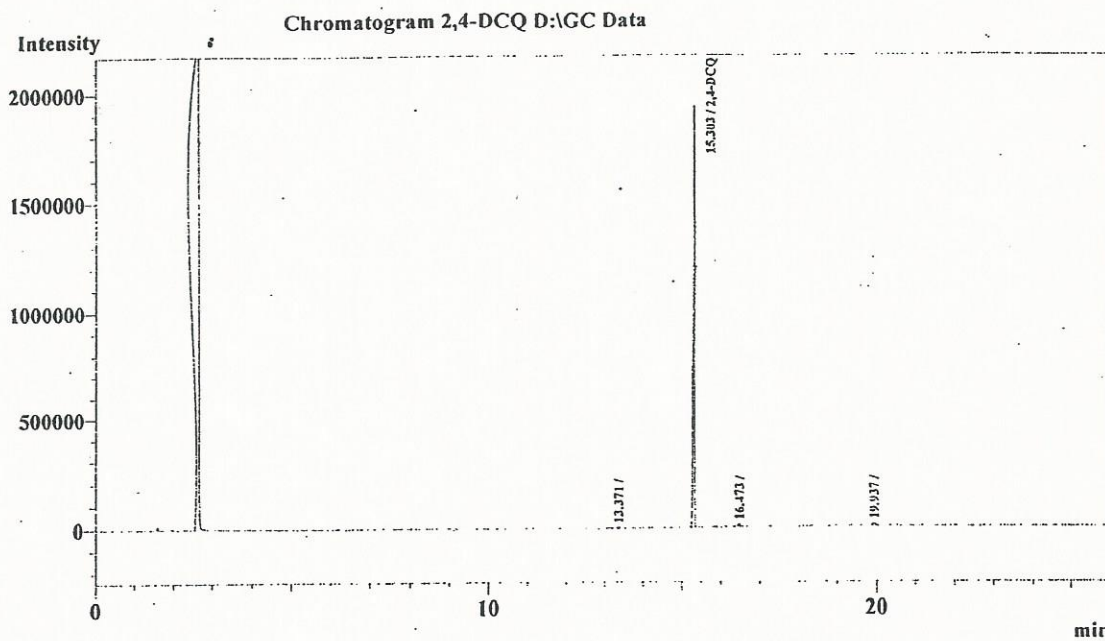
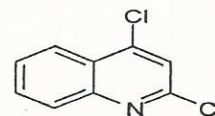
## HPLC ANALYSIS

User Name : Satyanarayana  
Sample Name : 2,4-DCQ  
Sample ID : BBML(Unit-II)  
Method Name : D:\Methods\General method.gcm

Catalog No.: 22-414  
Product Name: 2,4-Dichloroquinoline  
Lot No.: 1611735

### Description

Column : EB-5 - (30M x 0.32mm x 1.0 um)  
Injector - 250°C  
Detector - 300°C  
Column temp - 60(5)-20-280(10)

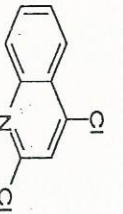


Peak Table - Channel 1

Peak#	Ret.Time	Area	Height	Area%	Name
1	13.371	8691	2444	0.21	
2	15.303	4104236	1927067	98.29	2,4-DCQ
3	16.473	25387	10213	0.61	
4	19.937	37465	9335	0.90	
Total		4175779	1949059	100.00	

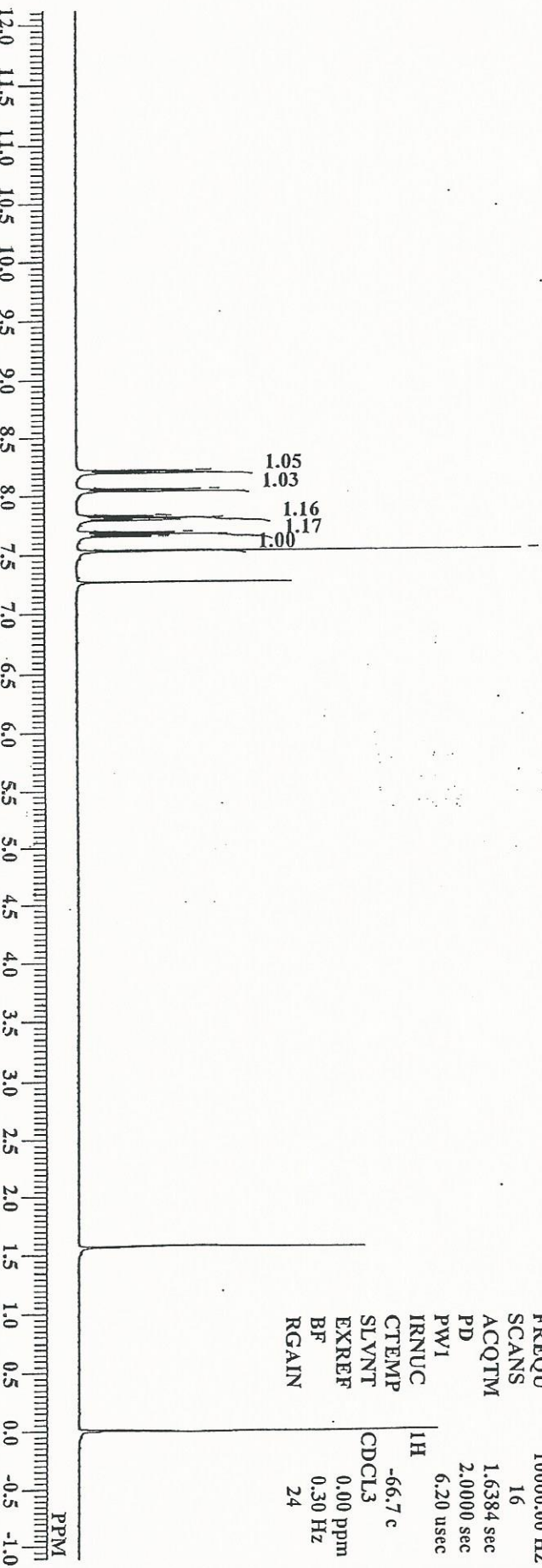
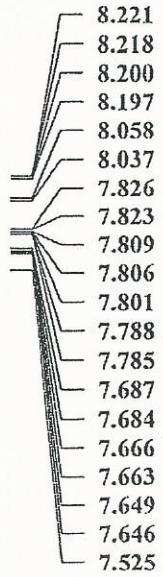


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 Lot No.: 1611735

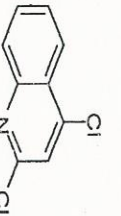
2,4-DCQ 1H NMR CDCl3  
 Analysed By : SPM



DFILE 2,4-DCQ 1H.als  
 COMNT 2,4-DCQ 1H NMR CDCl3  
 OBNUC 1H  
 EXMOD NON  
 OBFRO 399.65 MHz  
 OBSET 124.00 KHZ  
 OBRIN 10500.00 Hz  
 POINT 16384  
 FREQU 10000.00 Hz  
 SCANS 16  
 ACQTM 1.6384 sec  
 PD 2.0000 sec  
 PW1 6.20 usec  
 IRNUC 1H  
 CTEMP -66.7 c  
 SLVNT CDCL3  
 EXREF 0.00 ppm  
 BF 0.30 Hz  
 RGAIN 24



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 Lot No.: 1611735

2,4-DCQ 1H NMR CDCl3  
 Analysed By: SPM

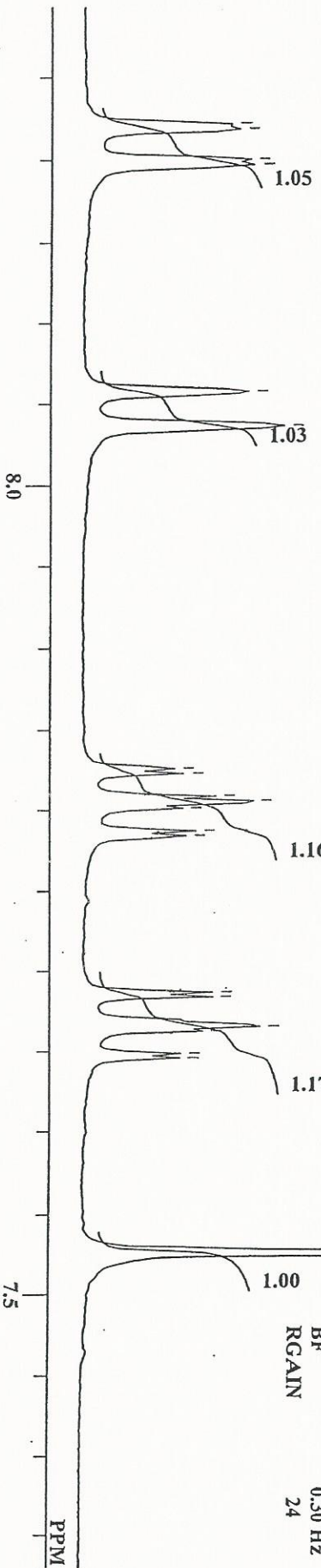
8.221  
 8.218  
 8.200  
 8.197

8.058  
 8.037

7.826  
 7.823  
 7.809  
 7.806  
 7.801  
 7.788  
 7.785

7.687  
 7.684  
 7.666  
 7.663  
 7.649  
 7.646

7.525



DPFILE	2,4-DCQ 1H.nls
COMINT	2,4-DCQ 1H NMR CDCl3
OBNUC	1H
EXMOD	NON
OBFRQ	399.65 MHz
OBSET	124.00 KHz
OBFIN	10500.00 Hz
POINT	16384
FREQU	10000.00 Hz
SCANS	16
ACQTM	1.6384 sec
PD	2.0000 sec
PWI	6.20 usec
IRNUC	1H
CTEMP	-66.7 c
SLVNT	CDCl3
EXREF	0.00 ppm
BF	0.30 Hz
RGAIN	24



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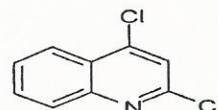
e-mail: [chemical@indofinechemical.com](mailto:chemical@indofinechemical.com)

Catalog No.: 22-414

Product Name: 2,4-Dichloroquinoline

Lot No.: 1611735

PEAK 20  
 MXINT 203.6117706  
 RESOL 0.6103516 HZ  
 RESOL 0.0015267 PPM  
 EXREF 0.0000000 PPM  
 OBS -8988.04 HZ  
 ABOBS 399784.5000000 KHZ  
 NGAIN 1  
 COMNT 2,4-DCQ 1H NMR CDCl3



NO.	PPM	INT(%)	FREQU(HZ)	J(HZ)	POSITION	BAR GRAPH
1	8.22133	25.05969	3286.743	----	6074	+++++
2	8.21827	26.40087	3285.522	1.221	6076	+++++
3	8.19995	28.24151	3278.198	7.324	6088	+++++
4	8.19690	28.80638	3276.978	1.221	6090	+++++
5	8.05797	28.10668	3221.436	55.542	6181	+++++
6	8.03660	33.99231	3212.891	8.545	6195	+++++
7	7.82591	15.92059	3128.662	84.229	6333	+++
8	7.82286	17.36602	3127.441	1.221	6335	+++
9	7.80912	22.81419	3121.948	5.493	6344	++++
10	7.80606	28.98053	3120.728	1.221	6346	+++++
11	7.80148	17.24611	3118.896	1.831	6349	+++
12	7.78774	19.46323	3113.403	5.493	6358	+++
13	7.78469	17.79357	3112.183	1.221	6360	+++
14	7.68698	22.25666	3073.120	39.062	6424	++++
15	7.68393	22.30809	3071.899	1.221	6426	++++
16	7.66561	30.09493	3064.575	7.324	6438	+++++
17	7.66255	20.59957	3063.354	1.221	6440	++++
18	7.64881	17.02591	3057.861	5.493	6449	+++
19	7.64576	16.79734	3056.641	1.221	6451	+++
20	7.52515	100.00000	3008.423	48.218	6530	+++++