



CERTIFICATE OF ANALYSIS

20 Martin Ross Avenue, North York, ON, M3J 2K8, CANADA
Tel: (416) 665-9696, Fax: (416) 665-4439
Email: orders.trc@lgcgroup.com Website: www.trc-canada.com

1. Identification

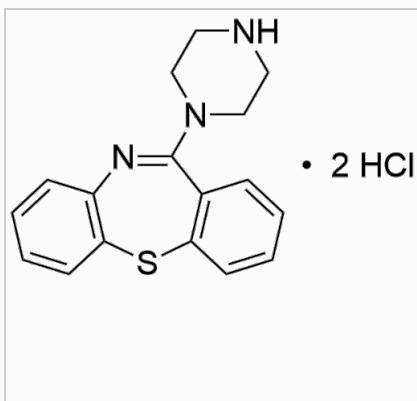
Catalogue Number: D288740

CAS Number: 111974-74-4

Product: N-Des[2-(2-hydroxyethoxy)ethyl]
Quetiapine Dihydrochloride

Synonym: 11-(1-Piperazinyl)-dibenzo[b,f][1,4]thiazepine
Dihydrochloride; DBTP; Norquetiapine;
Quetiapine EP Impurity B;

Structure:



Molecular Formula:

C₁₇H₁₇N₃S • 2HCl

Molecular weight:

295.4 + 2(36.46)

Source of Product:

N/A

Solubility:

DMSO (Slightly, Heated,
Sonicated), Ethanol (Slightly,
Heated), Methanol (Slight

Lot Number: 11-QIU-194-1

Purity: 98%

Shipping Condition: This Product Is Stable To Be
Shipped At Room Temperature

Storage Condition: -20°C

2. Warning

Warning 1:

Warning 2:

Warning 3:

3. Analytical Information

| Tests: | Specifications: | Results: |
|--------------------|----------------------------|--------------------------------|
| Appearance | White to Pale Yellow Solid | White to Off-White Solid |
| NMR | Conforms to Structure | Conforms |
| Elemental Analysis | Conforms | %C: 53.91, %H: 5.58, %N: 11.05 |
| MS | Conforms to Structure | Conforms |
| Chloride Content | Report Result | 19.5% |
| Water Content | Report Result | 4.7% by Karl Fischer |
| HPLC Purity | Report Result | 99.65% (210 nm) |

Additional Information: N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of $\pm 2\%$. Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

4. Signatures

| Reviewed By | Reviewed By | C of A Approved By | Test Date | Retest Date |
|-------------|---------------|--------------------|-----------|-------------|
| Evan Burns | Toni Rantanen | Chanell Chu | 8/26/2021 | 8/24/2025 |
| | | | | |