



## 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

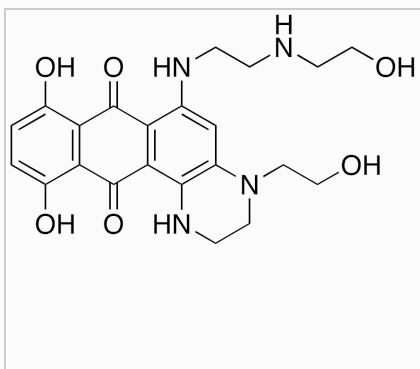
**Catalogue Number:** M373435

**CAS Number:** 137132-70-8

**Product:** Mitoxantrone (2-Hydroxyethyl)piperazine Impurity (Mitoxantrone Impurity D)

**Synonym:** 1,2,3,4-Tetrahydro-8,11-dihydroxy-4-(2-hydroxyethyl)-6-[[2-[(2-hydroxyethyl)amino]ethyl]amino]naphtho[2,3-f]quinoxaline-7,12-dione; Mitoxantrone Impurity D;

**Structure:**



**Molecular Formula:**

C<sub>22</sub>H<sub>26</sub>N<sub>4</sub>O<sub>6</sub>

**Molecular weight:**

442.46

**Source of Product:**

Synthetic

**Solubility:**

DMSO (Slightly), Methanol (Slightly)

**Lot Number:** 22-MVI-63-1

**Purity:** 96%

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

**Storage Condition:** 4°C

### 2. Warning

**Warning 1:**

**Warning 2:**

**Warning 3:**

### 3. Analytical Information

Tests:	Specifications:	Results:
Appearance	Dark Blue to Black Solid	Dark Blue to Black Solid
NMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 56.17, %H: 5.97, %N: 11.95
HPLC Purity	Report Result	94.34% (240 nm)
MS	Conforms to Structure	Conforms

**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 ± 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
Swathi Reddy	Toni Rantanen	Chanell Chu	10/26/2022	10/24/2026