

Certificate of Analysis

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Product Name: Methylene Blue

CAS Number: 61-73-4

IUPAC Name: 3,7-bis(Dimethylamino)phenazathionium chloride

Catalog No.: 3213

Batch No.: 1

EC Number: 200-515-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₆H₁₈ClN₃S·2¾H₂O

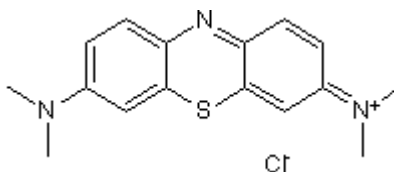
Batch Molecular Weight: 369.39

Physical Appearance: Green solid

Solubility:
water to 10 mM
DMSO to 10 mM
ethanol to 10 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows >95.1% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	52.02	6.41	11.38
Found	51.9	6.09	11.2

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Product Information

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Description:

Biological stain and redox indicator. Inhibits tau filament formation ($IC_{50} = 1.9 \mu\text{M}$). Also inhibits soluble guanylyl cyclase.

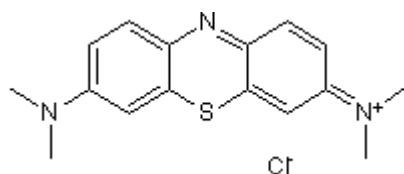
Physical and Chemical Properties:

Batch Molecular Formula: $\text{C}_{16}\text{H}_{18}\text{ClN}_3\text{S} \cdot 2\frac{3}{4}\text{H}_2\text{O}$

Batch Molecular Weight: 369.39

Physical Appearance: Green solid

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 10 mM

DMSO to 10 mM

ethanol to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Wischik *et al* (1996) Selective inhibition of Alzheimer disease-like tau aggregation by phenothiazines. *Neurobiology* **93** 11213.

Hwang *et al* (1998) Comparison of two soluble guanylyl cyclase inhibitors, methylene boue and ODQ, on sodium nitroprusside-induced relaxation in guinea-pig trachea. *Br.J.Pharmacol.* **125** 1158. PMID: 9863642.

Taniguchi *et al* (2005) Inhibition of heparin-induced tau filament formation by phenothiazines, polyphenols, and porphyrins. *J.Biol.Chem.* **280** 7614. PMID: 15611092.

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