

## Certificate of Analysis

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**Product Name:** 1M7

**Catalog No.:** 6602

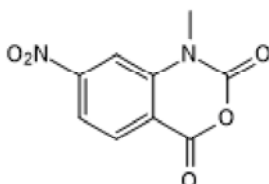
**Batch No.:** 1

CAS Number: 73043-80-8

IUPAC Name: 1-Methyl-7-nitro-2*H*-3,1-benzoxazine-2,4(1*H*)-dione

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>9</sub>H<sub>6</sub>N<sub>2</sub>O<sub>5</sub>  
**Batch Molecular Weight:** 222.15  
**Physical Appearance:** Yellow solid  
**Solubility:** DMSO to 100 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 98% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	48.66	2.72	12.61
Found	48.69	2.62	12.4

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

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Tel: +1 612 379 2956

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IUPAC Name: 1-Methyl-7-nitro-2H-3,1-benzoxazine-2,4(1H)-dione

**Description:**

Reagent for RNA SHAPE-MaP experiments. Enables analysis of RNA secondary structures at single nucleotide resolution in <70 seconds.

**Physical and Chemical Properties:**

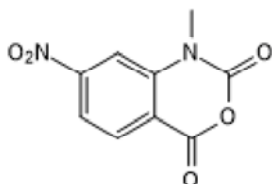
Batch Molecular Formula: C<sub>9</sub>H<sub>6</sub>N<sub>2</sub>O<sub>5</sub>

Batch Molecular Weight: 222.15

Physical Appearance: Yellow solid

**Minimum Purity:** >95%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 100 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:**

**Smola et al** (2015) Detection of RNA-Protein interactions in living cells with SHAPE. *Biochemistry* **54** 6867. PMID: 26544910.

**Siegfried et al** (2014) RNA motif discovery by SHAPE and mutational profiling (SHAPE-MaP). *Nat.Methods* **11** 959. PMID: 25028896.

**Turner et al** (2013) Safer one-pot synthesis of the 'SHAPE' reagent 1-methyl-7-nitroisatoic anhydride (1m7). *RNA* **19** 1857. PMID: 24141619.

**Mortimer et al** (2007) A fast-acting reagent for accurate analysis of RNA secondary and tertiary structure by SHAPE chemistry. *J.Am.Chem.Soc.* **129** 4144. PMID: 17367143.

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