

## Certificate of Analysis

**Product Name:** Acetaminophen

CAS Number: 103-90-2

IUPAC Name: *N*-(4-Hydroxyphenyl)acetamide

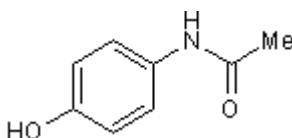
**Catalog No.:** 1706

EC Number: 203-157-5

**Batch No.:** 1

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>  
**Batch Molecular Weight:** 151.16  
**Physical Appearance:** White solid  
**Solubility:** phosphate buffered saline to 50 mM with gentle warming  
 ethanol to 100 mM  
 DMSO to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.64 (Dichloromethane:Methanol:Ammonia soln. [2:1:0.01])  
**Melting Point:** Between 172 - 175°C  
**HPLC:** Shows >99.5% purity  
<sup>1</sup>H NMR: Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	63.57	6	9.27
Found	63.44	6.08	9.19

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

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**Description:**

Cyclooxygenase inhibitor; may be selective for COX-3 (IC<sub>50</sub> values are 460, > 1000 and > 1000 μM for canine COX-3, and murine COX-1 and COX-2 respectively). Widely used analgesic and antipyretic agent.

**Physical and Chemical Properties:**

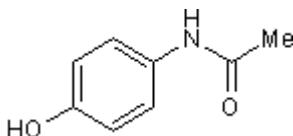
Batch Molecular Formula: C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

Batch Molecular Weight: 151.16

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

phosphate buffered saline to 50 mM with gentle warming  
ethanol to 100 mM  
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:**

**Riendeau et al** (1997) Comparison of the cyclooxygenase-1 inhibitory properties of nonsteroidal anti-inflammatory drugs (NSAIDs) and selective COX-2 inhibitors, using sensitive microsomal and platelet assays. *Can.J.Physiol.Pharmacol.* **75** 1088. PMID: 9365818.

**Chong et al** (2001) Effect of acetaminophen on atherosclerosis. *Ann.Pharmacother.* **35** 1476. PMID: 11724102.

**Chandrasekharan et al** (2002) COX-3, a cyclooxygenase-1 variant inhibited by acetaminophen and other analgesic/antipyretic drugs: cloning, structure, and expression. *Proc.Natl.Acad.Sci.U.S.A.* **99** 13926. PMID: 12242329.

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