

Product Name: Theophylline

Catalog No.: 2795

Batch No.: 1

CAS Number: 58-55-9

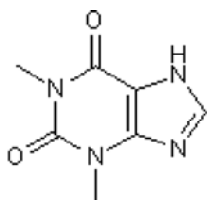
EC Number: 200-385-7

IUPAC Name: 3,7-Dihydro-1,3-dimethyl-1*H*-purine-2,6-dione

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇H₈N₄O₂
Batch Molecular Weight: 180.16
Physical Appearance: White solid
Solubility: water to 25 mM
DMSO to 100 mM
1.1eq. NaOH to 100 mM
1eq. HCl to 25 mM
ethanol to 10 mM

Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: At 272°C
HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:		Carbon Hydrogen Nitrogen		
	Theoretical	46.67	4.48	31.09
	Found	46.67	4.44	30.59

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Description:

Bronchodilator, anti-inflammatory and immunomodulator. Antagonizes adenosine receptors and is a weak non-selective inhibitor of phosphodiesterases (PDEs).

Physical and Chemical Properties:

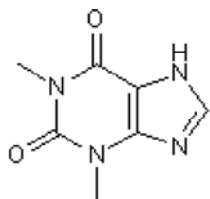
Batch Molecular Formula: C₇H₈N₄O₂

Batch Molecular Weight: 180.16

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 25 mM
DMSO to 100 mM
1.1eq. NaOH to 100 mM
1eq. HCl to 25 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:

Barnes (2003) Theophylline. New perspectives for an old drug. *Am.J.Respir.Care Med.* **167** 813.

Page (1999) Recent advances in our understanding of the use of theophylline in the treatment of asthma. *J.Clin.Pharmacol.* **39** 237. PMID: 10073321.

Coward et al (1998) Asthma, adenosine, mast cells and theophylline. *Clin.Exp.Allergy* **28** (Suppl. 3) 42.

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