

Certificate of Analysis

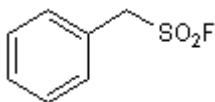
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Product Name: PMSF
CAS Number: 329-98-6
IUPAC Name: Phenylmethylsulfonyl fluoride

Catalog No.: 4486
Batch No.: 1
EC Number: 206-350-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₇H₇FO₂S
Batch Molecular Weight: 174.19
Physical Appearance: White solid
Solubility: ethanol to 100 mM
DMSO to 100 mM
Storage: Desiccate at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 93 - 95°C
GC: Shows 98% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	48.26	4.05	
Found	48.31	4.05	

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

Product Information

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IUPAC Name: Phenylmethylsulfonyl fluoride

Catalog No.: 4486

EC Number: 206-350-2

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Description:

Non-selective protease inhibitor; irreversibly sulfonates key active site serine residues in serine proteases, acetylcholinesterases, and thiol proteases. Blocks metabolism of anandamide (Cat. No. 1339) in a rodent model of cannabimimetic activity. Unstable in water ($t_{1/2}$ ~ 60 mins at pH 7.5). Brain penetrant.

Physical and Chemical Properties:

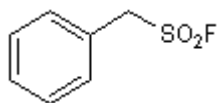
Batch Molecular Formula: C₇H₇FO₂S

Batch Molecular Weight: 174.19

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

ethanol to 100 mM

DMSO to 100 mM

The compound is very unstable in the presence of water. Use dry solvents to make stock solutions.

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:

Turini et al (1969) The action of phenylmethylsulfonyl fluoride on human acetylcholinesterase, chymotrypsin and trypsin. *J.Pharmacol.Exp.Ther.* **167** 98. PMID: 4306345.

Compton & Martin (1997) The effect of the enzyme inhibitor phenylmethylsulfonyl fluoride on the pharmacological effect of anandamide in the mouse model of cannabimimetic activity. *J.Pharmacol.Exp.Ther.* **283** 1138. PMID: 9399986.

Day et al (2001) Role of fatty acid amide hydrolase in the transport of the endogenous cannabinoid anandamide. *Mol.Pharmacol.* **59** 1369. PMID: 11353795.

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