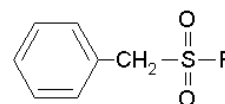


78830 Phenylmethanesulfonyl fluoride

(Phenylmethylsulfonyl fluoride, α -Toluenesulfonyl fluoride, PMSF)

CAS number: 329-98-6



Product Description:

Appearance: White to faint yellow powder
Molecular weight: 174.2 g/mol
Molecular Formula: C₇H₇FO₂S
Melting Point: 92-93°C

Store at room temperature

PMSF is an inhibitor of serine proteases and acetylcholinesterase. ² It inhibits proteases such as chymotrypsin, trypsin, thrombin and thiol proteases such as papain. PMSF inhibits serine proteases by sulfonating serine residues at the active site.

^{3,4} Less toxic substitute for diisopropylfluorophosphate.

Preparation Instructions:

PMSF is soluble in anhydrous isopropanol at 35 mg/ml with heating, resulting in a clear to very slightly hazy, colorless to faint yellow solution. Recommended stock solution: 100 mM in anhydrous isopropanol or anhydrous (>99.8%, not 95%) ethanol. A 200 mM solution in dry solvent is stable for at least 9 months at 2-8°C. ⁵

PMSF is very unstable in the presence of water (see list below). ⁶

pH	half-life [min.]
7.0	110
7.5	55
8.0	35

References:

1. D.E. Fahrney, A.M. Groll, Specific trypsin and chymotrypsin inhibitor, *J. Am. Chem. Soc.*, vol. 85, 997 (1963).
2. Turini, P., *J. Pharmacol. Exp. Ther.*, vol. 167, 98 (1969).
3. Gold, A., *Methods in Enzymology*, vol. 11, 706 (1967).
4. Gold, A. and Fahrney, D., *Biochemistry*, vol. 3, 783 (1964).
5. *Proteolytic Enzymes: A Practical Approach*, edited by R.J. Benyon, page 246 (1989).
6. *Anal. Biochem.*, vol. 86, 574 (1978).

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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