Product Information

Phenylmethanesulfonyl fluoride

Catalog Number P7626
Store at Room Temperature

CAS RN 329-98-6
Synonyms: PMSF, α-toluenesulfonyl fluoride, benzylsulfonylfluoride, phenylmethylsulfonyl fluoride

Product Description
Molecular Mass: 174.19
Molecular Formula: C_7H_7FO_2S
Melting Point: 91–92 °C

Phenylmethanesulfonyl fluoride (PMSF) is a general inhibitor of serine proteases, such as chymotrypsin, trypsin, and thrombin. PMSF inhibits serine proteases by sulfonating the hydroxyl groups of reactive-site serine residues. At relatively higher concentrations, PMSF also inhibits cysteine proteases.

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

PMSF is considered a highly toxic cholinesterase inhibitor.

Preparation Instructions
This product is soluble at 0.2 M (200 mM) in isopropanol. When needed, sonication (or gentle heating, if absolutely necessary) may be applied to dissolve fully the PMSF.

Storage/Stability
Stock solutions of PMSF may be prepared at 100 mM in anhydrous isopropanol, or in anhydrous (100%, not 95%) ethanol. A 200 mM PMSF solution in dry solvent has been reported to remain active for at least 9 months at 2–8 °C. 100 mM PMSF solutions in isopropanol may be stored at −20 °C for several months.

PMSF is very unstable in the presence of water, as it is susceptible to hydrolysis of the fluoride moiety. Half-life values of PMSF in aqueous solutions at 25 °C have been reported as follows:

- pH 7.0: 110 minutes
- pH 7.5: 55 minutes
- pH 8.0: 35 minutes

References