

Specification

PMSF BioChemica

A0999

Physical Description:	Solid
Product Code:	A0999
Product Name:	PMSF <i>BioChemica</i>
Specifications:	Assay (GC): min. 99 % Solubility (10 %, EtOH): clear Heavy metals (as Pb): max. 0.001 % Sulfated ash: max. 0.1 % Water (K.F.): max. 0.5 %
Hazard pictograms	 
UN:	2923
Class/PG:	8(6.1)/II
ADR:	8(6.1)/II
IMDG:	8(6.1)/II
IATA:	8(6.1)/II
WGK:	1
Storage:	RT
Signal Word:	Danger
GHS Symbols:	GHS05 GHS06
H Phrases:	H301 H314

AppliChem GmbH

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Specification

PMSF BioChemica

A0999

P Phrases:	P280 P305+P351+P338 P310
Molecular Formula:	C ₇ H ₇ FO ₂ S
M:	174.19 g/mol
CAS:	329-98-6
EINECS:	206-350-2
CS:	29049900
Comment	<p> PMSF is an irreversible inhibitor of serin-proteases like trypsin, chymotrypsin and cysteine proteases. The inhibition of cysteine proteases can be reverted by reducing thioles. It is frequently used for the preparation of proteins from cell lysates. PMSF is limited soluble in water. Stock solutions are prepared in organic solvents (e. g. 10 mg/ml in 10 % Isopropanol). The effective concentration of PMSF is 0.1 - 1 mM. The LD₅₀ (i.p.) for the mouse is 200 mg/kg. Stability: In aqueous solutions PMSF is inactivated very fast, especially at raising pH and temperature. Therefore, it has to be added fresh during each working step. At pH 7.0, 7.5 and 8.0 at 25°C the half life is 110, 55 and 35 minutes respectively. Stock solutions (Isopropanol) are stable for about 9 months at +4°C (4). Stock solutions of PMSF (10 - 100 mM; 1.74 mg/ml - 17.4 mg/ml, respectively) are prepared with anhydrous Ethanol, Methanol or Isopropanol and stored at -20°C. PMSF may crystallize in Isopropanol at -20°C. Caution: PMSF is extremely toxic to mucous membranes of the lung, eyes and skin. Any contact by inhalation, swallowing or contact with skin must be avoided. After contact with skin wash immediately with plenty of water. We recommend to use AEBSF instead of PMSF, which is as effective but substantially less toxic. </p>
Bibliography	<p> (1)Fahrney, D.E. & Gold, A.M. (1963) <i>J. Am. Chem. Soc.</i> 85, 996-1000 Sulfonyl fluorides as inhibitors of esterases. I. Rates of reaction with acetylcholinesterase, α-Chymotrypsin and trypsin. (2)Gold, A.M. & Fahrney, D.E. (1964) <i>Biochemistry</i> 3, 783-791 Sulfonyl fluorides as inhibitors of esterases. II Formation and reactions of phenylmethanesulfonyl α-Chymotrypsin. (3)Prouty, W.F. & Goldberg, A.L. (1972) <i>J. Biol. Chem.</i> 247, 3341-3352 Effects of protease inhibitors on protein breakdown in <i>E. coli</i>. (4)James, G.T. (1978) <i>Anal. Biochem.</i> 86, 574-579 Inactivation of the protease inhibitor Phenylmethylsulfonyl fluoride in buffers. </p>

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