

# Technical Data Sheet



**Product Name:** PMSF (Phenylmethylsulfonyl Fluoride)

**Catalogue Number:** BPBOI025

## Introduction:

PMSF (Phenylmethylsulfonyl Fluoride) is a potent serine protease inhibitor used to prevent proteolytic degradation of proteins during extraction and purification. As an irreversible inhibitor, PMSF targets and inactivates serine proteases, including trypsin, chymotrypsin, and thrombin, by modifying the active site. PMSF is widely used in protein research applications to maintain protein integrity and stability, particularly in cell lysis, protein purification, and sample preparation protocols.

## Product Description:

BioPioneer's PMSF is a high-purity protease inhibitor essential for maintaining protein quality in biochemical applications. With strong specificity toward serine proteases, PMSF effectively inactivates protease activity to prevent unwanted protein degradation. PMSF is provided as a crystalline solid and should be prepared fresh in isopropanol, ethanol, or DMSO to achieve optimal inhibitory effects during protein extraction.

## Applications:

BioPioneer's PMSF is versatile and suitable for a range of applications, including:

- **Protein Extraction:** Protects proteins during extraction from cellular and tissue samples.
- **Protein Purification:** Inhibits protease activity to preserve target proteins.
- **Sample Preparation:** Ideal for use in cell lysates and homogenates where protease activity must be controlled.
- **Enzyme Assays:** Preserves proteins for downstream assays requiring the maintenance of active proteins.

## Composition:

PMSF is a white crystalline powder of high purity with a molecular weight of 174.19 g/mol. The product is supplied as a solid and should be prepared immediately before use, using compatible solvents like isopropanol, ethanol, or DMSO for stability.

## Preparation Instructions:

Prepare a 0.1 M stock solution by dissolving PMSF in a suitable solvent (isopropanol, ethanol, or DMSO). PMSF is unstable in aqueous solutions, so it should be added just before use in cell or tissue lysates to ensure optimal effectiveness. The working concentration typically ranges from 0.1-1 mM, depending on the specific application.

## Storage Conditions:

Store PMSF at -20°C in a tightly sealed container to prevent moisture absorption and degradation. Avoid prolonged exposure to light, air, and moisture to maintain stability.

# Technical Data Sheet



## Warning and Precautions:

Not intended for medicinal use. PMSF is toxic and should be handled with care. It is a strong irritant and can cause harm if inhaled, ingested, or in contact with skin or eyes. Always review the Safety Data Sheet (SDS) before handling PMSF and wear appropriate protective gloves, eye protection, and face protection. Use under a fume hood to avoid inhalation of dust and vapours. Consult the SDS for detailed safety information.

## Safety Information:

PMSF is intended solely for laboratory applications and should not be used for pharmaceuticals, household purposes, or other non-laboratory uses. PMSF is harmful if inhaled, ingested, or absorbed through the skin, and appropriate protective measures should be taken. Observe proper laboratory safety protocols, including wearing gloves, goggles, and handling in a well-ventilated area or fume hood.

## Technical Assistance:

BioPioneer is committed to providing comprehensive technical support to ensure successful product use. For any assistance, please reach out to our technical support team at [info@biopioneer.in](mailto:info@biopioneer.in).