

## Dimethylallyl S-thiolodiphosphate (DMSPP)

**Catalog number:** I-S051

**Molecular Formula:** C<sub>5</sub>H<sub>21</sub>N<sub>3</sub>O<sub>6</sub>P<sub>2</sub>S

**MW:** 313.25

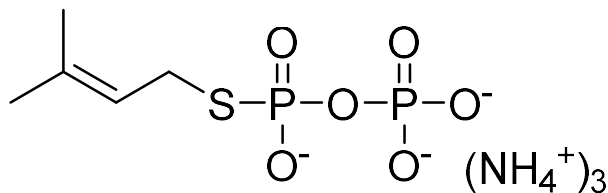
**CAS#:** 684271-20-3

**Solubility:** water or methanol, >1 mg/mL

**Storage and Handling:** Store dry at -20 °C. Stock solutions should be stored frozen (-20 °C or below).

**Background:** Dimethylallyl thiolodiphosphate (DMASPP) is an analog of DMAPP in which the non-bridging oxygen has been replaced by sulfur resulting in a less-reactive compound.

- References:**
- 1) Phan, R. M. and C. D. Poulter (2001). "Synthesis of (S)-Isoprenoid Thiodiphosphates as Substrates and Inhibitors." *The Journal of Organic Chemistry* 66(20): 6705.
  - 2) Hosfield, D. J., Y. Zhang, et al. (2004). "Structural Basis for Bisphosphonate-mediated Inhibition of Isoprenoid Biosynthesis." *Journal of Biological Chemistry* 279(10): 8526-8529.
  - 3) Koskal, M, I. Zimmer, et al. (2010) "Structure of Isoprene Synthase Illuminates the Chemical Mechanism of Teragram Atmospheric Carbon Emission" *J. Mol. Biol.* 402(2): 363-373.
  - 4) Miyamoto, K, F. Ishikawa, et al. (2014) "A 7-dimethylallyl tryptophan synthase from a fungal *Neosartorya* sp.: Biochemical characterization and structural insight into the regioselective prenylation" *Bioorgh. Med. Chem* 22(8):2517-2528.
  - 5) Elshahawi, S.I., H. Cao, et al. (2017) "Structure and specificity of a permissive bacterial C-prenyltransferase" *Nat. Chem. Biol.* 13; 366.



**Hazardous Properties and Cautions:** The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

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Technical Data Sheet, Rev 6, 5/7/24– **For research use only.** Not intended for diagnostic or therapeutic use.