4-phenyl-1,2,3-Thiadiazole
Item No. 10011055

CAS Registry No.: 25445-77-6
Formal Name: 4-phenyl-1,2,3-thiadiazole
Synonyms: NSC 111906
MF: C₈H₆N₂S
FW: 162.2
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures
For long term storage, we suggest that 4-phenyl-1,2,3-thiadiazole be stored as supplied at -20°C. It should be stable for at least two years.

4-phenyl-1,2,3-Thiadiazole is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-phenyl-1,2,3-thiadiazole in an organic solvent purged with an inert gas. 4-phenyl-1,2,3-Thiadiazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 4-phenyl-1,2,3-thiadiazole in these solvents is approximately 10, 30, and 3 mg/ml, respectively.

4-phenyl-1,2,3-Thiadiazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-phenyl-1,2,3-Thiadiazole should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 4-phenyl-1,2,3-Thiadiazole has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Cytochrome P450 (CYP450) enzymes are a superfamily of oxidative catalysts important in the biosynthesis and metabolism of a wide range of endogenous molecules as well as the metabolism of xenobiotics. For example, CYP2B4 metabolizes substituted amines, CYP2E1 metabolizes various alcohols and halogenated alkenes, and CYP1A2 catalyzes the oxygenation of aromatic compounds and polycyclic hydrocarbons. 4-phenyl-1,2,3-Thiadiazole is, at 100 µM, a selective inhibitor of certain CYP450 enzymes (CYP2B4, CYP2E1), but not others (CYP1A2), with inactivation occurring in a mechanism-based manner. 1,2,3-Thiadiazole compounds and their derivatives, including 4-phenyl-1,2,3-thiadiazole, are also commonly used as fungicides, herbicides, and plant growth regulators.

References

Related Products
4,5-diphenyl-1,2,3-Thiadiazole - Item No. 10011040 • 2,3-dihydrothieno-Thiadiazole Carboxylate - Item No. 10011048 • 4-phenyl-5-methyl-1,2,3-Thiadiazole - Item No. 10011049

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent by email to your institution.

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