

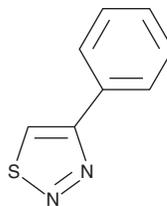
PRODUCT INFORMATION



4-phenyl-1,2,3-Thiadiazole

Item No. 10011055

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



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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 the solvent of choice, which should be 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.

Description

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

Reference

1. Babu, B.R. and Vaz, A.D.N. 1,2,3-thiadiazole: A novel heterocyclic heme ligand for the design of cytochrome P450 inhibitors. *Biochemistry* **36**, 7209-7216 (1997).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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