

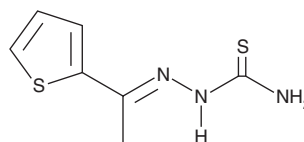
PRODUCT INFORMATION



2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide

Item No. 31385

CAS Registry No.: 5351-71-3
Formal Name: 2-[1-(2-thienyl)ethylidene]-hydrazinecarbothioamide
Synonyms: 1-(Thiophen-2-yl)ethanone thiosemicarbazone, NSC 707
MF: C₇H₉N₃S₂
FW: 199.3
Purity: ≥95%
UV/Vis.: λ_{max}: 248, 327 nm
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

2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-(1-(thiophen-2-yl)ethylidene)hydrazinecarbothioamide in the solvent of choice, which should be purged with an inert gas. 2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 2-(1-(thiophen-2-yl)ethylidene)hydrazinecarbothioamide in ethanol is approximately 1 mg/ml and 30 mg/ml in DMSO and DMF.

2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-(1-(thiophen-2-yl)ethylidene)hydrazinecarbothioamide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide has a solubility of approximately 0.20 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide is an antimicrobial agent.¹ It is active against the Gram-negative bacteria *E. coli*, *P. aeruginosa*, and *S. marcescens* (MICs = 64, 100, and 70 µg/ml, respectively), the Gram-positive bacteria *S. aureus*, *M. luteus*, and *B. cereus* (MICs = 130, 100, and 50 µg/ml, respectively), and the fungi *C. albicans*, *G. candidum*, *T. rubrum*, *F. oxysporum*, *A. flavus*, and *S. brevicaulis* (MICs = 69-120 µg/ml). 2-(1-(Thiophen-2-yl)ethylidene)hydrazinecarbothioamide is also a precursor in the synthesis of other antimicrobial agents, as well as compounds with anticancer activity.^{1,2}

References

1. Youssef, M.S.K. and Abeer, A.A.O. Synthesis and antimicrobial activity of some novel 2-thienyl substituted heterocycles. *Heterocycl. Commun.* **20(1)**, 25-31 (2014).
2. Gomha, S.M., Edrees, M.M., and Altalbawy, F.M.A. Synthesis and characterization of some new bis-pyrazolyl-thiazoles incorporating the thiophene moiety as potent anti-tumor agents. *Int. J. Mol. Sci.* **17(9)**, 1499 (2016).

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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