2-Iminothiolane hydrochloride

Product Number  I 6256
Storage Temperature  2-8 °C

Product Description
Molecular Formula:  C₄H₇NS • HCl
Molecular Weight:  137.6
CAS Number:  4781-83-3
Melting Point: 192-193 °C
λₘₐₓ: 248 nm
Extinction coefficient:  E²⁰ M⁻¹ cm⁻¹
Synonyms: dihydro-2(3H)-thiophenimine hydrochloride, 2-thiolaminimine hydrochloride, Traut's reagent

2-Iminothiolane is a thiolating reagent that is used in the preparation of disulfide and thioether linked conjugates, such as for protein crosslinking.¹ ² ³ It has a preference for primary amino groups and reacts at pH 7-10 to give amidine compounds which contain free sulhydryl groups. The amidine linkage preserves the original primary amine positive charge. A mechanistic study of the reaction of 2-iminothiolane with amino groups in peptides and proteins has been published.⁴

Other biological crosslinks which have been investigated using 2-iminothiolane include RNA-protein contact sites.⁵ ⁶ ²-Iminothiolane has been utilized to prepare glycoprotein-antibody conjugates, streptavidin-antibody conjugates, and avidin-protein nanoparticle conjugates.⁷ ⁸ ⁹

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in water (100 mg/ml), with heat as needed, yielding a clear to slightly hazy, colorless to faint yellow solution.

References
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