

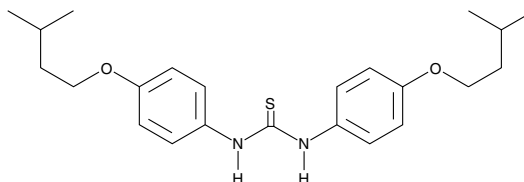
Product Information



Thiocarlide

Item No. 10006976

CAS Registry No.: 910-86-1
Formal Name: N,N'-bis[4-(3-methylbutoxy)phenyl]-thiourea
Synonym: Isoxyl
MF: C₂₃H₃₂N₂O₂S
FW: 400.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 273 nm



Laboratory Procedures

For long term storage, we suggest that thiocarlide (isoxyl) be stored as supplied at -20°C. It should be stable for at least two years.

Isoxyl is supplied as a crystalline solid. A stock solution may be made by dissolving the isoxyl in an organic solvent purged with an inert gas. Isoxyl is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of isoxyl in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Isoxyl is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Isoxyl is a thiourea derivative that was used in the 1960s to successfully treat tuberculosis (TB). It has considerable antimycobacterial activity *in vitro* and is effective against multi-drug resistant strains of *Mycobacterium tuberculosis* in the range of 1-10 µg/ml.^{1,2} At concentrations of 10 µM, isoxyl inhibits the synthesis of *M. bovis* during six hours of exposure which is similar to isoniazid (INH) and ethionamide (ETH), two other predominant anti-TB drugs. Unlike INH and ETH, isoxyl also partially inhibits the synthesis of fatty acids. Isoxyl shows no acute toxicity against primary macrophage cell cultures as demonstrated by diminution of redox activity.²

References

1. Phetsuksiri, B., Jackson, M., Scherman, H., *et al.* Unique mechanism of action of the thiourea drug isoxyl on mycobacterium tuberculosis. *J. Biol. Chem.* **278**(52), 53123-53130 (2003).
2. Phetsuksiri, B., Baulard, A.R., Cooper, A.M., *et al.* Antimycobacterial activities of isoxyl and new derivatives through the inhibition of mycolic acid synthesis. *Antimicrob. Agents Chemother.* **43**(5), 1042-1051 (1999).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10006976

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 *via* email to your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

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