

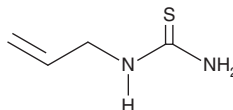
# PRODUCT INFORMATION



## Allylthiourea

Item No. 30282

**CAS Registry No.:** 109-57-9  
**Formal Name:** N-2-propen-1-yl-thiourea  
**Synonyms:** NSC 1915, Rhodallin, U 19571  
**MF:** C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>S  
**FW:** 116.2  
**Purity:** ≥95%  
**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

Allylthiourea is supplied as a crystalline solid. A stock solution may be made by dissolving the allylthiourea in the solvent of choice, which should be purged with an inert gas. Allylthiourea is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of allylthiourea in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Allylthiourea is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, allylthiourea should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Allylthiourea has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Allylthiourea is a nitritation inhibitor.<sup>1,3</sup> It inhibits nitritation in *Nitrobacteriae* by chelating the copper in the ammonia monooxygenase active site when used at concentrations ranging from 8 to 80 μM.<sup>2,3</sup> Allylthiourea has been used in the study of micropollutant degradation kinetics in soil.<sup>1</sup>

### References

1. Tatari, K., Gülay, A., Thamdrup, B., *et al.* Challenges in using allylthiourea and chlorate as specific nitrification inhibitors. *Chemosphere* **182**, 301-305 (2017).
2. Bédard, C. and Knowles, R. Physiology, biochemistry, and specific inhibitors of CH<sub>4</sub>, NH<sub>4</sub><sup>+</sup>, and CO oxidation by methanotrophs and nitrifiers. *Microbiol. Rev.* **53(1)**, 68-84 (1989).
3. Ginestet, P., Audic, J.M., Urbain, V., *et al.* Estimation of nitrifying bacterial activities by measuring oxygen uptake in the presence of the metabolic inhibitors allylthiourea and azide. *Appl. Environ. Microbiol.* **64(6)**, 2266-2268 (1998).

#### 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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