

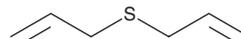
PRODUCT INFORMATION



Diallyl Sulfide

Item No. 20894

CAS Registry No.: 592-88-1
Formal Name: 3,3'-thiobis-1-propene
Synonyms: Allyl Sulfide, DAS, NSC 20947
MF: C₆H₁₀S
FW: 114.2
Purity: ≥95%
UV/Vis.: λ_{max}: 220 nm
Supplied as: A neat oil
Storage: Room temperature
Stability: ≥4 years



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

Laboratory Procedures

Diallyl sulfide is supplied as a neat oil. A stock solution may be made by dissolving the diallyl sulfide in the solvent of choice. Diallyl sulfide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of diallyl sulfide in these solvents is approximately 3, 5, and 10 mg/ml, respectively.

Diallyl sulfide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, diallyl sulfide should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Diallyl sulfide has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Diallyl sulfide is a thioether found in garlic that can modulate the cytochrome P450 drug metabolizing system, activate the constitutive androstane receptor to regulate multidrug resistance-associated proteins, and upregulate the expression of detoxifying enzymes.^{1,2} Garlic-derived organosulfides such as diallyl sulfide have been shown to be highly protective from chemically-induced carcinogenesis in animals.³

References

1. Maher, J.M., Cheng, X., Slitt, A.L., *et al.* Induction of the multidrug resistance-associated protein family of transporters by chemical activators of receptor-mediated pathways in mouse liver. *Drug Metab. Dispos.* **33**(7), 956-962 (2005).
2. Magesh, S., Chen, Y., and Hu, L. Small molecule modulators of Keap1-Nrf2-ARE pathway as potential preventive and therapeutic agents. *Med. Res. Rev.* **32**(4), 687-726 (2012).
3. Xiao, D., Choi, S., Johnson, D.E., *et al.* Diallyl trisulfide-induced apoptosis in human prostate cancer cells involves c-jun N-terminal kinase and extracellular-signal regulated kinase-mediated phosphorylation of Bcl-2. *Oncogene* **23**, 5594-5606 (2004).

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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