

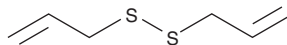
# PRODUCT INFORMATION



## Diallyl Disulfide

Item No. 10012582

CAS Registry No.: 2179-57-9  
Formal Name: di-2-propen-1-yl-disulfide  
Synonyms: DADS, Garlicin, NSC 29228  
MF:  $C_6H_{10}S_2$   
FW: 146.3  
Purity:  $\geq 80\%$   
Supplied as: A neat oil  
Storage:  $-20^\circ C$   
Stability:  $\geq 4$  years



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

### Laboratory Procedures

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

DADS is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DADS should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DADS 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

DADS is an organosulfur compound derived from allicin, a natural compound found in garlic and related plants. DADS has diverse physiological effects, many that are cardio- and neuro-protective.<sup>1-3</sup> These effects are due, at least in part because DADS is converted, in the presence of thiols, to the gaseous mediator hydrogen sulfide ( $H_2S$ ).<sup>1</sup> Thus, DADS serves as a thiol-dependent  $H_2S$  donor in biological systems.<sup>1</sup>

### References

1. Benavides, G.A., Squadrito, G.L., Mills, R.W., *et al.* Hydrogen sulfide mediates the vasoactivity of garlic. *Proc. Natl. Acad. Sci. USA* **104**(46), 17977-17982 (2007).
2. 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**(33), 5594-5606 (2004).
3. Gupta, N. and Porter, T.D. Garlic and garlic-derived compounds inhibit human squalene monooxygenase. *J. Nutr.* **131**(6), 1662-1667 (2001).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897  
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM