

Product Data Sheet

Product Name: Diallyl Tetrasulfide

Cat. No.: GC45992

Chemical Properties

Cas. No. 2444-49-7

Chemical Name di-2-propen-1-yl tetrasulfide

SMILES C=CCSSSSCC=C

Formula C6H10S4

M.Wt 210.4

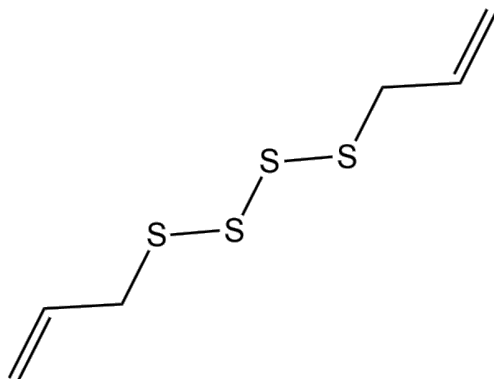
Solubility 30mg/mL in DMSO, 30mg/mL in DMF, 30mg/mL in Ethanol

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Diallyl tetrasulfide is an organosulfur compound that has been found in *A. sativum* and has diverse biological activities, including antimicrobial, antioxidant, and anticancer properties.[1],[2],[3],[4] It is active against the bacteria *S. aureus* and methicillin-resistant *S. aureus* (MRSA; MICs = 0.5 and 2 mg/L, respectively), as well as the fungi *C. albicans*, *C. krusei*, *C. glabrata*, *A. niger*, *A. flavus*, and *A. fumigatus* (MICs = 0.5, 4, 2, 1, 2, and 4 mg/L, respectively).[1] It reduces cadmium-induced increases

Caution: Product has not been fully validated for medical applications. For research use only.

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in hepatic levels of thiobarbituric acid reactive substances (TBARS) and increases cadmium-induced decreases in the hepatic activity of superoxide dismutase (SOD1), catalase, GST, and glucose-6-phosphate dehydrogenase (G6PDH) in rats when administered at a dose of 40 mg/kg.[2] Diallyl tetrasulfide is cytotoxic to MCF-7 breast cancer cells (IC₅₀ = 92 µM) and reduces tumor growth in a BGC-823 mouse xenograft model when administered at doses of 20, 30, and 40 mg/kg for 32 days. [3],[4]

Reference:

- [1]. Tsao, S.-M., and Yin, M.-C. In-vitro antimicrobial activity of four diallyl sulphides occurring naturally in garlic and Chinese leek oils. J. Med. Microbiol. 50(7), 646-649 (2001).
- [2]. Murugavel, P., and Pari, L. Effects of diallyl tetrasulfide on cadmium-induced oxidative damage in the liver of rats. Hum. Exp. Toxicol. 26(6), 527-534 (2007).
- [3]. Viry, E., Anwar, A., Kirsch, G., et al. Antiproliferative effect of natural tetrasulfides in human breast cancer cells is mediated through the inhibition of the cell division cycle 25 phosphatases. Int. J. Oncol. 38(4), 1103-1111 (2011).
- [4]. Jiang, X.-Y., Zhu, X.-S., Xu, H.-Y., et al. Diallyl trisulfide suppresses tumor growth through the attenuation of Nrf2/Akt and activation of p38/JNK and potentiates cisplatin efficacy in gastric cancer treatment. Acta Pharmacol. Sin. 38(7), 1048-1058 (2017).

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