

## Product Information

**Product ID** A4440

**CAS No.** 539-86-6

**Chemical Name** Thio-2-propene-1-sulfinic acid S-allyl ester

**Synonym** Allylthiosulphinic acid allyl ester, Diallyl thiosulfinate

**Formula** C<sub>6</sub>H<sub>10</sub>OS<sub>2</sub>

**Formula Wt.** 162.27

**Melting Point** <25°C

**Purity** ≥98%

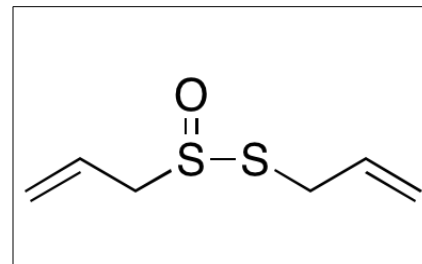
**Solubility** Soluble in water. Miscible with alcohol, ether, benzene. **This product is a solution of methanol:water:formic acid (60:40:0.1) and allicin at 10**

**Store Temp** -80 °C

**Ship Temp** Dry Ice

**Description** Allicin is a thiocyanate found in garlic; it exhibits a wide variety of properties, including anticancer, antioxidative, antihypertensive, anti-arrhythmic, anti-parasitic, and anti-diabetic activities. In vitro, allicin binds cellular nucleic acid, primarily nitrogenous bases and phosphate backbones, and induces autophagy and apoptosis, leading to cell death. The cardiovascular activities of allicin stem from its ability to decrease systolic blood pressure and triglyceride levels and to shorten action potential duration through inhibition of L-type voltage-gated Ca<sup>2+</sup> channels and activation of inward rectifying K<sup>+</sup> channels in animal models. The antioxidative activity of allicin is shown in vitro and in vivo through its ability to enhance Nrf2 signaling, to increase superoxide dismutase and glutathione levels, and also to inhibit cyclophosphamide-induced oxidative lung damage in animal models. Additionally, allicin inhibits multiplication of intracellular *Leishmania* promastigotes in vitro and ex vivo and decreases anti-islet cell antibodies and insulin levels in animal models of type 1 diabetes mellitus.

**This product is a solution of methanol:water:formic acid (60:40:0.1) and allicin at 10mg/mL.**



**Bulk quantities available upon request**

Product ID	Size
A4440	1 mg
A4440	5 mg

**References** Chu YL, Ho CT, Chung JG, et al. Allicin Induces Anti-human Liver Cancer Cells through the p53 Gene Modulating Apoptosis and Autophagy. *J Agric Food Chem.* 2013 Oct 16;61(41):9839-9848. PMID: 24059278.

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Liu DS, Gao W, Liang ES, et al. Effects of allicin on hyperhomocysteinemia-induced experimental vascular endothelial dysfunction. *Eur J Pharmacol.* 2013 Aug 15;714(1-3):163-9. PMID: 23792140.

Ashry NA, Gameil NM, Suddek GM. Modulation of cyclophosphamide-induced early lung injury by allicin. *Pharm Biol.* 2013 Jun;51(6):806-11. PMID: 23675840.

Elkayam A, Peleg E, Grossman E, et al. Effects of allicin on cardiovascular risk factors in spontaneously hypertensive rats. *Isr Med Assoc J.* 2013 Mar;15(3):170-3. PMID: 23662381.

Huang W, Wang Y, Cao YG, et al. Antiarrhythmic effects and ionic mechanisms of allicin on myocardial injury of diabetic rats induced by streptozotocin. *Naunyn Schmiedebergs Arch Pharmacol.* 2013 Aug;386(8):697-704. PMID: 23604291.

Osman M, Adnan A, Salmah Bakar N, et al. Allicin has significant effect on autoimmune anti-islet cell antibodies in type 1 diabetic rats. *Pol J Pathol.* 2012 Dec;63(4):248-54. PMID: 23359194.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.