



## Product Information

Product ID N3378

CAS No. 57564-91-7

Chemical Name

Synonym

Formula  $C_{10}H_{16}N_4O_7S$

Formula Wt. 336.32

Melting Point 185-195°C

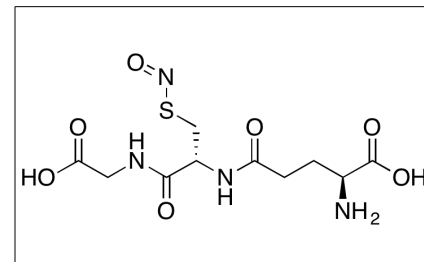
Purity ≥98%

Solubility

Store Temp -20°C

Ship Temp Ambient

**Description** S-Nitroglutathione acts as a NO donor, displaying antioxidative, bronchodilatory, vasodilatory, and anticancer activities. In the vasculature, S-nitroglutathione attenuates Pannexin-1 channel currents and ATP release. In epithelial cells from cystic fibrosis patients, S-nitroglutathione promotes maturation of the defective CF transmembrane conductance regulator (CFTR), increasing cAMP-induced Cl<sup>-</sup> efflux and improving defective Cl<sup>-</sup> transport. Donation of NO to actin results in less effective polymerization but produces a vasodilatory effect. Additionally, donation of NO to proteins involved in insulin signal transduction improves insulin resistance. S-Nitroglutathione also stimulates activation of ERK 1/2 and p38, inducing NO-related apoptosis in colon cancer cells; in this model, glutathione and superoxide dismutase are likely to play a role as well.



**Bulk quantities available upon request**

Product ID	Size
N3378	5 mg
N3378	10 mg
N3378	25 mg

- References** Lohman AW, Weaver JL, Billaud M, et al. S-nitrosylation inhibits pannexin 1 channel function. *J Biol Chem*. 2012 Nov 16;287(47):39602-12. PMID: 23033481.
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- Carvalho-Filho MA, Ueno M, Hirabara SM, et al. S-nitrosation of the insulin receptor, insulin receptor substrate 1, and protein kinase B/Akt: a novel mechanism of insulin resistance. *Diabetes*. 2005 Apr;54(4):959-67. PMID: 15793233.
- Jeon HK, Choi SU, Jung NP. Association of the ERK1/2 and p38 kinase pathways with nitric oxide-induced apoptosis and cell cycle arrest in colon cancer cells. *Cell Biol Toxicol*. 2005 Mar;21(2):115-25. PMID: 16142585.
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- Dalle-Donne I, Milzani A, Giustarini D, et al. S-NO-actin: S-nitrosylation kinetics and the effect on isolated vascular smooth muscle. *J Muscle Res Cell Motil*. 2000 Feb;21(2):171-81. PMID: 10961840.
- Messmer UK, Brüne B. Nitric oxide-induced apoptosis: p53-dependent and p53-independent signalling pathways. *Biochem J*. 1996 Oct 1;319 ( Pt 1):299-305. PMID: 8870682.

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