

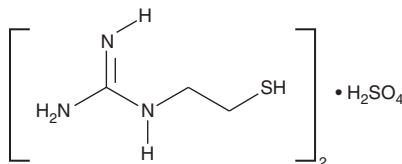
# Product Information



## MEG (sulfate)

Item No. 81020

**CAS Registry No.:** 3979-00-8  
**Formal Name:** (2-mercaptoethyl)-guanidine sulfate  
**MF:**  $[C_3H_9N_3S]_2 \cdot H_2SO_4$   
**FW:** 336.4  
**Purity:**  $\geq 98\%$   
**Stability:**  $\geq 1$  year at 4°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that MEG (sulfate) be stored as supplied at 4°C. It should be stable for at least one year.

MEG (sulfate) is supplied as a crystalline solid. MEG (sulfate) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of MEG (sulfate) be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of MEG (sulfate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

MEG is a selective iNOS inhibitor and scavenger of peroxynitrite. The  $EC_{50}$ s for inhibition of iNOS (LPS-treated rat lung), eNOS (bovine endothelial), and nNOS (rat brain) are 11.5, 110, and 60  $\mu M$ , respectively.<sup>1</sup> MEG reacts with peroxynitrite with a second order rate constant of  $1,900 M^{-1}sec^{-1}$  at 37°C.<sup>2</sup> MEG has potent anti-inflammatory activity, which may be due to the combined effect of MEG acting as an inhibitor of iNOS and as a scavenger of peroxynitrite.<sup>3</sup>

### References

1. Szabó, C., Ferrer-Sueta, G., Zingarelli, B., *et al.* Mercaptoethylguanidine and guanidine inhibitors of nitric-oxide synthase react with peroxynitrite and protect against peroxynitrite-induced oxidative damage. *J. Biol. Chem.* **272**, 9030-9036 (1997).
2. Cuzzocrea, S., Zingarelli, B., Hake, P., *et al.* Antiinflammatory effects of mercaptoethylguanidine, a combined inhibitor of nitric oxide synthase and peroxynitrite scavenger, in carrageenan-induced models of inflammation. *Free Radic. Biol. Med.* **24**, 450-459 (1998).
3. Southan, G.J., Zingarelli, B., O'Connor, M., *et al.* Spontaneous rearrangement of aminoalkylisothioureas into mercaptoalkylguanidines, a novel class of nitric oxide synthase inhibitors with selectivity towards the inducible isoform. *Br. J. Pharmacol.* **117**, 619-632 (1996).

### Related Products

Ebselen - Item No. 70530 • L-NIL (hydrochloride) - Item No. 80310 • 1400W (hydrochloride) - Item No. 81520 • Aminoguanidine (hydrochloride) - Item No. 81530 • Peroxynitrite - Item No. 81565

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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