

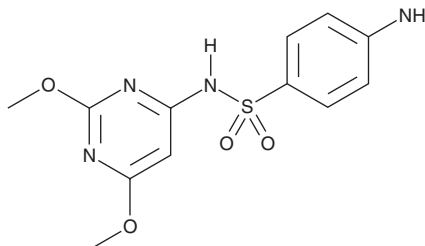
# PRODUCT INFORMATION



## Sulfadimethoxine

Item No. 28827

**CAS Registry No.:** 122-11-2  
**Formal Name:** 4-amino-N-(2,6-dimethoxy-4-pyrimidinyl)-benzenesulfonamide  
**Synonym:** Sulphadimethoxine  
**MF:** C<sub>12</sub>H<sub>14</sub>N<sub>4</sub>O<sub>4</sub>S  
**FW:** 310.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 273 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Sulfadimethoxine is supplied as a solid. A stock solution may be made by dissolving the sulfadimethoxine in the solvent of choice, which should be purged with an inert gas. Sulfadimethoxine is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of sulfadimethoxine in these solvents is approximately 10 and 20 mg/ml, respectively.

Sulfadimethoxine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sulfadimethoxine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Sulfadimethoxine has a solubility of approximately 0.16 mg/ml in a 1:7 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Sulfadimethoxine is a sulfonamide antibiotic that is active against Gram-negative and Gram-positive bacteria and other microorganisms.<sup>1</sup> It inhibits recombinant *P. carinii* dihydropteroate synthase (DHPS; IC<sub>50</sub> = 25 nM), an enzyme required for folate biosynthesis, in a cell-free assay.<sup>2</sup> Sulfadimethoxine is active against *S. aureus*, *S. pneumoniae*, *K. pneumoniae*, and *E. coli* in a disc assay.<sup>1</sup> It is also active against *C. spiroforme* isolates from rabbits (MIC<sub>90</sub> = 256 µg/ml) and certain *M. bovoculi* isolates from keratoconjunctivitis infections in cows (MIC<sub>50</sub> = ≤256 µg/ml).<sup>3,4</sup> Sulfadimethoxine is efficacious against *S. pneumoniae*, *K. pneumoniae*, and *E. coli* systemic infections in mice with 50% curative dose (CD<sub>50</sub>) values of 79.7, 2.7, and 12.2 mg/kg, respectively. It is also efficacious against *H. capsulatum* systemic fungal infections in mice (CD<sub>50</sub> = 300 mg/kg).<sup>1</sup>

### References

1. Böhni, E., Fust, B., Rieder, J., *et al.* Comparative toxicological, chemotherapeutic and pharmacokinetic studies with sulphormethoxine and other sulphonamides in animals and man. *Chemotherapy* **14**(4), 195-226 (1969).
2. Hong, Y.-L., Hossler, P.A., Calhoun, D.H., *et al.* Inhibition of recombinant *Pneumocystis carinii* dihydropteroate synthetase by sulfa drugs. *Antimicrob. Agents Chemother.* **39**(8), 1756-1763 (1995).
3. Agnoletti, F., Ferro, T., Guolo, A., *et al.* A survey of *Clostridium spiroforme* antimicrobial susceptibility in rabbit breeding. *Vet. Microbiol.* **136**(1-2), 188-191 (2009).
4. Angelos, J.A., Ball, L.M., and Byrne, B.A. Minimum inhibitory concentrations of selected antimicrobial agents for *Moraxella bovoculi* associated with infectious bovine keratoconjunctivitis. *J. Vet. Diagn. Invest.* **23**(3), 552-555 (2011).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/06/2022

#### 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