# Sulfathiazole

**Cat. No.:** HY-B0507

**CAS No.:** 72-14-0

**Molecular Formula:** $C_9H_9N_3O_2S_2$

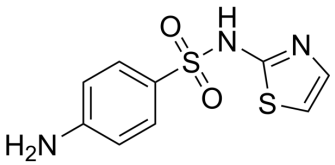
**Molecular Weight:** 255.32

**Target:** Bacterial; Antibiotic

**Pathway:** Anti-infection

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 6 months |
| | -20°C | 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 250 mg/mL (979.16 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.9167 mL | 19.5833 mL | 39.1665 mL |
| | 5 mM | 0.7833 mL | 3.9167 mL | 7.8333 mL |
| | 10 mM | 0.3917 mL | 1.9583 mL | 3.9167 mL |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

Sulfathiazole, an organosulfur compound, is used as a short-acting sulfonamide antibiotic[1][2][3].

**$IC_{50}$ & Target**

Antibacterial

**In Vitro**

Sulfathiazole (20 μg/L) starts to be degraded between day 31 and day 38 in one of the two batch reactors containing different wastewater matrices. Sulfathiazole is degraded at a substantially faster rate than sulfamethoxazole or sulfamethazine in the nitrification process (S3)[1]. Recovery from spiked manure slurry samples is 64% for Sulfathiazole at pH 9. Sulfathiazole has acidity constant of pKa of 7.1and retention times (tR) of 7.8. S/N values for Sulfathiazole are above 100 at the 1 mg/kg level[2]. Sulfathiazole sorption to inorganic sorbents exhibits pronounced pH dependence consistent with sorbate speciation and sorbent charge properties. Sulfathiazole cations are most important for sorption to clay minerals, followed by neutral species[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Theranostics. 2022 Jan 1;12(3):1187-1203.
- Chemosphere. 2019 Jun;225:378-387.
- Research Square Preprint. 2021 Aug.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Perez, S., P. Eichhorn, and D.S. Aga, Evaluating the biodegradability of sulfamethazine, sulfamethoxazole, sulfathiazole, and trimethoprim at different stages of sewage treatment. Environ Toxicol Chem, 2005. 24(6): p. 1361-7.

[2]. Haller, M.Y., et al., Quantification of veterinary antibiotics (sulfonamides and trimethoprim) in animal manure by liquid chromatography-mass spectrometry. J Chromatogr A, 2002. 952(1-2): p. 111-20.

[3]. Kahle, M. and C. Stamm, Time and pH-dependent sorption of the veterinary antimicrobial sulfathiazole to clay minerals and ferrihydrite. Chemosphere, 2007. 68(7): p. 1224-31.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA