

# PRODUCT INFORMATION



## Toltrazuril sulfone

Item No. 29655

**CAS Registry No.:** 69004-04-2  
**Formal Name:** 1-methyl-3-[3-methyl-4-[4-  
[(trifluoromethyl)sulfonyl]  
phenoxy]phenyl]-1,3,5-triazine-  
2,4,6(1H,3H,5H)-trione

**Synonym:** BAY-Vi 9143

**MF:** C<sub>18</sub>H<sub>14</sub>F<sub>3</sub>N<sub>3</sub>O<sub>6</sub>S

**FW:** 457.4

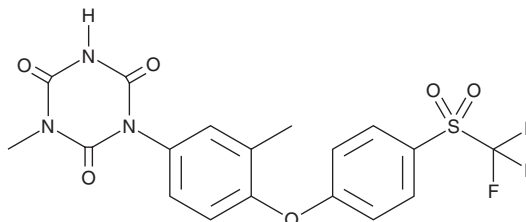
**Purity:** ≥98%

**UV/Vis.:** λ<sub>max</sub>: 249 nm

**Supplied as:** A crystalline 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

Toltrazuril sulfone is supplied as a crystalline solid. A stock solution may be made by dissolving the toltrazuril sulfone in the solvent of choice, which should be purged with an inert gas. Toltrazuril sulfone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of toltrazuril sulfone in these solvents is approximately 30 mg/ml.

Toltrazuril sulfone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, toltrazuril sulfone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Toltrazuril sulfone has a solubility of approximately 0.04 mg/ml in a 1:20 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Toltrazuril sulfone is an active metabolite of the coccidiostat toltrazuril (Item No. 20767).<sup>1</sup> Toltrazuril sulfone is formed from toltrazuril *via* the intermediate metabolite toltrazuril sulfoxide by cytochrome P450 (CYP) enzymes, including CYP3A. It inhibits *T. gondii* tachyzoite production in African green monkey kidney cells when used at concentrations of 0.1, 1, and 5 µg/ml.<sup>2</sup> Toltrazuril sulfone completely prevents infection with *T. gondii* tachyzoites in a mouse model of fatal toxoplasmosis when administered at doses of 10 or 20 mg/kg one day prior to, and daily for 10 days following, infection. It also reduces the number of infected mice in the same model when administered at a dose of 10 mg/kg for 11 days starting six days following infection. Formulations containing toltrazuril sulfone have been used in the treatment of equine protozoal myeloencephalitis (EPM) in horses.

### References

1. Benoit, E., Buronfosse, T., Moroni, P., *et al.* Stereoselective S-oxygenation of an aryl-trifluoromethyl sulfoxide to the corresponding sulfone by rat liver cytochromes P450. *Biochem. Pharmacol.* **46**(12), 2337-2341 (1993).
2. Mitchell, S.M., Zajac, A.M., Davis, W.L., *et al.* Efficacy of ponazuril in vitro and in preventing and treating *Toxoplasma gondii* infections in mice. *J. Parasitol.* **90**(3), 639-642 (2004).

#### 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.

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