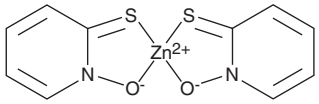
PRODUCT INFORMATION

Zinc Pyrithione

Item No. 29154

CAS Registry No.: 13463-41-7
Formal Name: (T-4)-*bis*[1-(hydroxy-κO)-2(1H)-pyridinethionato-κS^2]-zinc
MF: $C_{10}H_8N_2O_2S_2Zn$
FW: 317.7
Purity: ≥95%
UV/Vis.: λ_{max}: 216, 244, 275 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

Zinc pyrithione is supplied as a solid. A stock solution may be made by dissolving the zinc pyrithione in the solvent of choice, which should be purged with an inert gas. Zinc pyrithione is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of zinc pyrithione in these solvents is approximately 30 and 2.5 mg/ml, respectively.

Description

Zinc pyrithione is a coordination complex of zinc and pyrithione that has antimicrobial, anticancer, and fungicidal activities.[1-4] It is active against the bacteria *E. coli*, *S. aureus*, *K. pneumoniae*, *A. baumannii*, *P. aeruginosa*, *E. faecium*, *E. faecalis*, and *E. cloacae* (MICs = 1-4 µg/ml) and the fungus *P. ovale* when used at concentrations ranging from 0.01 to 10 µg/ml.[1,2] Zinc pyrithione reduces tumor growth in an SCC-4 mouse xenograft model when administered at a dose of 1 mg/kg per week for six weeks.[3] Topical application of zinc pyrithione (0.5-5% w/w) completely prevents *Aspergillus* growth in soy meal-derived adhesives.[4] Formulations containing zinc pyrithione have been used in the treatment of dandruff and in the prevention of fungal growth in industrial applications.

References

1. Blanchard, C., Brooks, L., Ebsworth-Mojica, K., *et al.* Zinc pyrithione improves the antibacterial activity of silver sulfadiazine ointment. *mSphere* **1(5),** e00194-16 (2016).
2. Van Cutsem, J., Van Gerven, F., Fransen, J., *et al*. The in vitro antifungal activity of ketoconazole, zinc pyrithione, and selenium sulfide against *Pityrosporum* and their efficacy as a shampoo in the treatment of experimental pityrosporosis in guinea pigs. *J. Am. Acad. Dermatol.* **22(6 Pt 1),** 993-998 (1990).
3. Srivastava, G., Matta, A., Fu, G., *et al*. Anticancer activity of pyrithione zinc in oral cancer cells identified in small molecule screens and xenograft model: Implications for oral cancer therapy. *Mol. Oncol.* **9(8)**, 1720-1735 (2015).
4. Li, W., Chen, M., Li, Y., *et al.* Improving mildew resistance of soy meal by nano-Ag/TiO2, zinc pyrithione and 4-cumylphenol. *Polymers (Basel)* **12(1)**, 169 (2020).

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