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Product Information

Bithionol

Product Number **T 9881**
Store at Room Temperature

Product Description

Molecular Formula: $C_{12}H_6Cl_4O_2S$

Molecular Weight: 356.1

CAS Number: 97-18-7

Melting Point: 188 °C

Synonym: 2,2'-thiobis[4,6-dichlorophenol]; TBP;
bis(2-hydroxy-3,5-dichlorophenyl)sulfide

The phenol derivative bithionol has been used as an agent against bacterium, molds, yeast, and helminths. It has been utilized in parasitology research in studies on the liver fluke infection fascioliasis and the lung fluke infection paragonimiasis.^{1,2} Bithionol has been shown to inhibit the production of volatile thiols from L-methionine by cell-free extracts of *Trichomonas vaginalis*.³ Bithionol has also been demonstrated to inhibit the 2-propanol-supported respiration of intact trophozoites of *Entamoeba histolytica*.⁴

The photosensitivity of bithionol has been reported to be a factor in altering its activity.² In particular, UV-A visible light photoactivates bithionol. A comparison of the effect of bithionol administration to hydrogen-peroxide treated human keratinocytes, both in the presence and in the absence of UV-A visible light, has been investigated.⁵

Several TLC methods for the identification of bithionol have been published.^{6,7} An LC method for the identification of bithionol and the related compounds bithionol sulfoxide and bithionol sulfone has been reported.⁸

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in acetone (50 mg/ml), yielding a clear to hazy, yellow solution.

References

1. The Merck Index, 12th ed., Entry# 1343.
2. Martindale The Extra Pharmacopoeia, 31st ed., Reynolds, J. E. F., ed., Royal Pharmaceutical Society (London, UK: 1996), pp. 106, 108, 112.
3. Thong, K. W., et al., L-methionine catabolism in trichomonads. *Mol. Biochem. Parasitol.*, **23(3)**, 223-231 (1987).
4. Takeuchi, T., et al., *Entamoeba histolytica*: inhibition *in vitro* by bithionol of respiratory activity and growth. *Exp. Parasitol.*, **58(1)**, 1-7 (1984).
5. Reid, L., et al., Hydrogen peroxide induced stress in human keratinocytes and its effect on bithionol toxicity. *Toxicol. In Vitro*, **15(4-5)**, 441-445 (2001).
6. Inoue, T., and Juniper, K., Jr., Thin-layer chromatographic technique for the identification of bithionol. *J. Chromatogr.*, **42(4)**, 548-549 (1969).
7. Wardas, W., et al., TLC fractionation and visualization of selected phenolic compounds applied as drugs. *Acta Pol. Pharm.*, **57(1)**, 15-21 (2000).
8. Mourot, D., et al., Liquid chromatographic determination of depletion of bithionol sulfoxide and its two major metabolites in bovine milk. *J. Assoc. Off. Anal. Chem.*, **70(5)**, 810-812 (1987).

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