Trimethoprim

Product Number  T7883
Storage Temperature  2-8 °C

Product Description
Molecular Formula:  C\textsubscript{14}H\textsubscript{18}N\textsubscript{4}O\textsubscript{3}
Molecular Weight:  290.3
CAS Number:  738-70-5
Melting Point:  199-203 °C\textsuperscript{1}
\(\lambda_{\text{max}}\):  271 nm\textsuperscript{2}
Extinction Coefficient:  \(E_{\text{mM}} = 6.31\) (0.1 M HCl)
\(pK_a = 6.6\)\textsuperscript{1}

Trimethoprim is primarily used as an antibacterial agent. It has dihydrofolate reductase inhibitor activity with selectivity for the prokaryote enzyme.\textsuperscript{3} The combination of trimethoprim and sulfamethoxazole interferes with the cellular metabolism of folic acid in the bacterial cell by blocking the biosynthesis of nucleotides. Co-trimoxazole is a 5:1 mixture of sulfamethoxazole (Product No. S7507) and trimethoprim.\textsuperscript{4} These two antibiotics act synergistically.

Trimethoprim lactate (Product No. T0677) is a soluble and stable form of trimethoprim and is widely used. It is much more soluble and stable in solution than trimethoprim (Product No. T7883).

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

Preparation Instructions
Trimethoprim is soluble in water (0.4 mg/ml). It is also soluble in DMSO (50 mg/ml), dimethylacetamide (138.6 mg/ml), benzyl alcohol (72.9 mg/ml), propylene glycol (25.7 mg/ml), chloroform (18.2 mg/ml), methanol (12.1 mg/ml), ether (0.3 mg/ml), and benzene (0.02 mg/ml).\textsuperscript{1}

References
1. The Merck Index, 12th Ed., Entry# 9840.