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ProductInformation

Thiourea

Product Number **T 7875**
Store At Room Temperature
Replacement for Product Code T3,355-3

Product Description

Molecular Formula: CH_4N_2S
Molecular Weight: 76.12
CAS Number: 62-56-6
Melting Point: 174-177 °C[1]
λ_{max}: 242 nm
Extinction Coefficient: E^{mM} = 13.0 (242 nm, ethanol)

Thiourea is a chaotropic agent or strong denaturant. It has been used to solubilize membrane and organelle specific proteins for analysis by two-dimensional gel electrophoresis.[2,3,4] Thiourea is a free radical scavenger of the peroxide radical. It was shown to inhibit lipid peroxidation and UV-induced crosslinking of collagen. [5,6]

As a chelator of cuprous copper, thiourea inhibits this intermediate in oxidative reactions of cupric ion. This process afforded protection of bovine albumin from copper-mediated oxidative reactions.[7]

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear to slightly hazy, colorless solution. It may require heat for complete solubilization.

References

1. ACS Reagent Chemicals, 9th ed., Oxford University Press (New York, NY: 2000), p. 662.
2. Rabilloud, T., Use of thiourea to increase the solubility of membrane proteins in two-dimensional electrophoresis. Electrophoresis, **19(5)**, 758-760 (1998).
3. Pasquali, C., et al., Preparative two-dimensional gel electrophoresis of membrane proteins. Electrophoresis, **18(14)**, 2573-2581 (1997).
4. Fialka, I., et al., Subcellular fractionation of polarized epithelial cells and identification of organelle-specific proteins by two-dimensional gel electrophoresis. Electrophoresis, **18(14)**, 2582-2590 (1997).
5. Muralidhara, R. K. T., Oxidative stress response of rat testis to model prooxidants in vitro and its modulation. Toxicol. In Vitro, **16(6)**, 675-682 (2002).
6. Ohan, M. P., et al., Synergistic effects of glucose and ultraviolet irradiation on physical properties of collagen. J. Biomed. Mater. Res., **60(3)**, 384-391 (2002).
7. Zhu, B. Z., et al., Thiourea protects against copper-induced oxidative damage by formation of a redox-inactive thiourea-copper complex. Free Radic. Biol. Med., **32(12)**, 1333-1338 (2002).

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