

Produktinformation



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Zellkultur & Verbrauchsmaterial
Diagnostik & molekulare Diagnostik
Laborgeräte & Service

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PRODUCT INFORMATION



1-Thioglycerol

Item No. 20824

| CAS Registry No.: Formal Name: | 96-27-5 3-mercapto-1,2-propanediol | |
|---|---|--------|
| Synonyms: | 3-Mercaptopropane-1,2-diol, (±)-3-Mercapto-1,2- propanediol, NSC 5370, 2,3-dihydroxy Propanethiol, 1-Thio-2,3-propanediol | нз он |
| MF: | C ₃ H ₈ O ₂ S | ОН |
| FW: | 108.2 | 0.1 |
| Purity: | ≥98% | |
| Supplied as: | A neat oil | |
| Storage: | -20°C | |
| Stability: | ≥1 year | |
| Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis | | |

Laboratory Procedures

1-Thioglycerol is supplied as a neat oil. A stock solution may be made by dissolving the 1-thioglycerol in the solvent of choice. 1-Thioglycerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 1-thioglycerol in these solvents is approximately 30, 10, and 20 mg/ml, respectively.

1-Thioglycerol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1-thioglycerol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 1-Thioglycerol has a solubility of approximately 0.25 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

1-Thioglycerol is a reagent used in fluorescence, spectroscopy, and microbiology techniques. Varying the concentration of 1-thioglycerol in the preparation of CdSe/CdS core-shell ultrasmall quantum dots (CS-USQDs) allows a precise way to control the size of the shell, with shell size increasing with increased concentration.¹ It is used as a capping agent in the synthesis of nanocrystals analyzed via Raman and UV/Vis spectroscopy.^{2,3} Biologically, 1-thioglycerol stimulates porphyrin synthesis and increases glutamyltRNA reductase activity in E. coli grown in an aerobic environment.⁴ It was previously a component in hair permanents used to produce waves or curls.⁵

References

- 1. Silva, A.C.A., da Silva, S.W., Morais, P.C., et al. Shell thickness modulation in ultrasmall CdSe/CdS_vSe_{1.v}/ CdS core/shell quantum dots via 1-thioglycerol. ACS Nano 8(2), 1913-1922 (2014).
- 2. Wang, Y., Sun, Z., Hu, H., et al. Raman scattering study of molecules adsorbed on ZnS nanocrystals. J. Raman Spect. 38(1), 34-38 (2007).
- 3. Harrison, M.T., Kershaw, S.V., Rogach, A.L., et al. Wet chemical synthesis of highly luminescent HgTe/CdS core/shell nanocrystals. Adv. Mat. 12(2), 123-125 (2000).
- 4. Javor, G.T., and Febre, E.F. Enzymatic basis of thiol-stimulated secretion of porphyrins by Escherichia coli. J. Bacteriol. 174(3), 1072-1075 (1992).
- 5. Lehman, A.J. Health aspects of common chemicals used in hair-waving preparations. JAMA 141(12), 842-845 (1949).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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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