

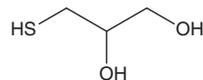
PRODUCT INFORMATION



1-Thioglycerol

Item No. 20824

CAS Registry No.: 96-27-5
Formal Name: 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
MF: C₃H₈O₂S
FW: 108.2
Purity: ≥98%
Supplied as: A neat oil
Storage: -20°C
Stability: ≥4 years



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, which should be purged with an inert gas. 1-Thioglycerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. 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 glutamyl-tRNA 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_xSe_{1-x}/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.

SAFETY 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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