

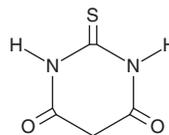
PRODUCT INFORMATION



2-Thiobarbituric Acid

Item No. 27367

CAS Registry No.: 504-17-6
Formal Name: dihydro-2-thioxo-4,6(1H,5H)-pyrimidinedione
Synonyms: 4,6-Dihydroxy-2-Mercaptopyrimidine,
2-Mercaptobarbituric Acid, NSC 4733
MF: C₄H₄N₂O₂S
FW: 144.1
Purity: ≥95%
UV/Vis.: λ_{max}: 212, 284 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-Thiobarbituric acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-thiobarbituric acid in the solvent of choice, which should be purged with an inert gas. 2-Thiobarbituric acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 2-thiobarbituric acid in ethanol is approximately 0.2 mg/ml and approximately 12 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 2-thiobarbituric acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2-thiobarbituric acid in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2-Thiobarbituric acid is a colorimetric reagent commonly used in the detection of malondialdehyde (MDA), a marker of lipid peroxidation.^{1,2} 2-Thiobarbituric acid forms a complex with MDA that can be quantified by colorimetric detection at 532 nm as a measure of lipid peroxidation.

References

1. Knight, J.A., Pieper, R.K., and McClellan, L. Specificity of the thiobarbituric acid reaction: Its use in studies of lipid peroxidation. *Clin. Chem.* **34(12)**, 2433-2438 (1988).
2. Reitznerová, A., Šuleková, M., Nagy, J., et al. Lipid peroxidation process in meat and meat products: A comparison study of malondialdehyde determination between modified 2-thiobarbituric acid spectrophotometric method and reverse-phase high-performance liquid chromatography. *Molecules* **22(11)**, E1988 (2017).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM