

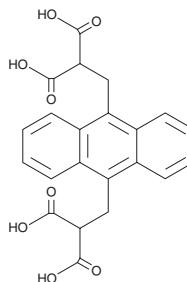
# PRODUCT INFORMATION



## 9,10-Anthracenediyl-bis(methylene)dimalonic Acid

Item No. 19580

**CAS Registry No.:** 307554-62-7  
**Formal Name:**  $\alpha^9, \alpha^{10}$ -dicarboxy-9,10-anthracenedipropanoic acid  
**Synonym:** ABMDMA  
**MF:**  $C_{22}H_{18}O_8$   
**FW:** 410.4  
**Purity:**  $\geq 90\%$   
**UV/Vis.:**  $\lambda_{max}$ : 210, 214, 260, 357, 376, 397 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ C$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

9,10-Anthracenediyl-bis(methylene)dimalonic acid (ABMDMA) is supplied as a crystalline solid. A stock solution may be made by dissolving the ABMDMA in the solvent of choice, which should be purged with an inert gas. ABMDMA is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ABMDMA in these solvents is approximately 30 and 20 mg/ml, respectively.

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 9,10-anthracenediyl-bis(methylene)dimalonic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 9,10-anthracenediyl-bis(methylene)dimalonic 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

ABMDMA is a reagent used to detect singlet oxygen generation. This water-soluble derivative of anthracene can be photobleached by singlet oxygen to its corresponding endoperoxide. This reaction can be monitored spectrophotometrically by recording the decrease in optical density at 400 nm (ABMDMA ex/em max. = 380/407 nm in 0.1 M phosphate pH 7.0).<sup>1</sup>

### Reference

1. Zhao, B., Yin, J.-J., Bilski, P.J., *et al.* Enhanced photodynamic efficacy towards melanoma cells by encapsulation of Pc4 in silica nanoparticles. *Toxicol. Appl. Pharmacol.* **241(2)**, 163-172 (2016).

#### 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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