

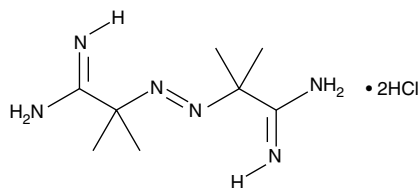
# Product Information



## AAPH

Item No. 82235

**CAS Registry No.:** 2997-92-4  
**Formal Name:** 2,2'-azobis-2-methyl-propanimidamide, dihydrochloride  
**MF:**  $C_8H_{18}N_6 \cdot 2HCl$   
**FW:** 271.2  
**Purity:**  $\geq 98\%$   
**Stability:**  $\geq 1$  year at  $-20^\circ C$   
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that AAPH be stored as supplied at  $-20^\circ C$ . It should be stable for at least one year.

AAPH is supplied as a crystalline solid. AAPH is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of AAPH be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of AAPH in PBS (pH 7.2) is approximately 10 mg/ml.

AAPH is a water-soluble azo compound which is used extensively as a free radical generator, often in the study of lipid peroxidation and the characterization of antioxidants.<sup>1-4</sup> Decomposition of AAPH produces molecular nitrogen and 2 carbon radicals. The carbon radicals may combine to produce stable products or react with molecular oxygen to give peroxy radicals. The half-life of AAPH is about 175 hours ( $37^\circ C$ ; neutral pH), making the rate of free radical generation essentially constant during the first several hours in solution.<sup>5</sup> While AAPH may be used effectively for lipid peroxidation in aqueous dispersions of fatty acids, other radical generators may be better suited for peroxidation studies in lipid micelles or membranes.<sup>6,7</sup>

### References

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4. Liégeois, C., Lermusieau, G., and Collin, S. Measuring antioxidant efficiency of wort, malt, and hops against the 2,2'-azobis(2-amidinopropane) dihydrochloride-induced oxidation of an aqueous dispersion of linoleic acid. *J. Agric. Food Chem.* **48**, 1129-1134 (2000).
5. Niki, E. Free radical initiators as source of water- or lipid-soluble peroxy radicals. *Methods Enzymol.* **186**, 100-108 (1990).
6. Yamamoto, Y., Haga, S., Niki, E., *et al.* Oxidation of lipids. V. Oxidation of methyl linoleate in aqueous dispersion. *Bull. Chem. Soc. Jpn.* **57**(5), 1260-1264 (1984).
7. Culbertson, S.M. and Porter, N.A. Unsymmetrical azo initiators increase efficiency of radical generation in aqueous dispersions, liposomal membranes, and lipoproteins. *J. Am. Chem. Soc.* **122**, 4032-4038 (2000).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/82235](http://www.caymanchem.com/catalog/82235)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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