**Product Information**

**Diphenhydramine (hydrochloride)**

*Item No. 11158*

**CAS Registry No.:** 147-24-0  
**Formal Name:** 2-(diphenylmethoxy)-N,N-dimethyl-ethanamine, monohydrochloride  
**Synonym:** DPH  
**MF:** C17H21NO • HCl  
**FW:** 291.8  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid

**Laboratory Procedures**

For long term storage, we suggest that diphenhydramine (DPH) (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

DPH (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the DPH (hydrochloride) in the solvent of choice. DPH (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of DPH (hydrochloride) in these solvents is approximately 30, 20, and 10 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 DPH (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of DPH (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

DPH is a first generation antihistamine which is a potent antagonist of the human H1 receptor (K_i = 11.7 nM).1,2 Like many first generation antihistamines, DPH readily crosses the blood-brain barrier and produces diverse cognitive and psychomotor effects.1,3 DPH also antagonizes muscarinic cholinergic receptors (K_i = 100 to 260 nM for M1 through M3), increasing the range of central nervous system effects and applications.4

**References**


**Related Products**

For a list of related products please visit: www.caymanchem.com/catalog/11158

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**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 to your institution.

**WARRANTY AND LIMITATION OF REMEDY**

Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications in the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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